


**STRATEGIC DEVELOPMENT OF FORENSIC SCIENCE
IN CAMBODIA FOR THE ASEAN COMMUNITY**

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OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS
(CRIMINOLOGY AND CRIMINAL JUSTICE)
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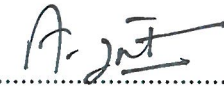

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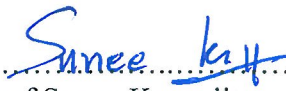
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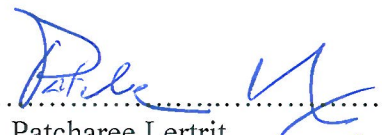

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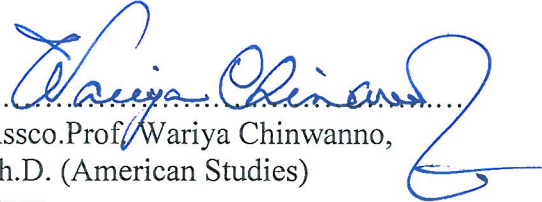

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ABSTRACT

This study aims to study the current state of forensic science, the conditions and factors concerned with forensic work, and the strategic development of forensic science in Cambodia. This research is conducted by textbooks, related research, articles, journals, abstracts, and in-depth interviews. The sample of this research is 14 people in Cambodia and 12 in Thailand.

The results of the research found that current forensic science is not common and the justice process uses witnesses more than forensic science, so many cases are dismissed since there are many problems such as lack of forensic tools, lack of forensic police, and forensic doctors, inquiry officials, and budget, along with problems of personnel doing work not related to their skills, problems with management, and political trends, as the government does not realize forensics' importance, and some Cambodian people do not understand how important an intact crime scene is because they often destroy evidence intentionally, and unintentionally.

Research suggested that the government should increase the budget for police officers, for forensic tools, and training courses for technical forensic police in the Department of Technical Forensic Police, Ministry of the Interior, and allow all police officers to work according to their skills, and give scholarships to study in foreign countries, and undertake foreign exchange programs.

KEY WORDS: FORENSIC SCIENCE/CAMBODIA/ASEAN COMMUNITY

200 pages

การพัฒนาเชิงยุทธศาสตร์ทางด้านนิติวิทยาศาสตร์สำหรับประเทศกัมพูชาเพื่อเตรียมพร้อมเข้าสู่ประชาคมอาเซียน
STRATEGIC DEVELOPMENT OF FORENSIC SCIENCE IN CAMBODIA FOR THE ASEAN
COMMUNITY

ภูมิ ษาเรือน 5636006 SHCJ/M

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษากระบวนการดำเนินงานด้านนิติวิทยาศาสตร์ในปัจจุบัน ปัญหาอุปสรรคที่ส่งต่อการดำเนินงาน และการพัฒนาเชิงยุทธศาสตร์ด้านนิติวิทยาศาสตร์ของประเทศกัมพูชา ทำการศึกษาจากข้อมูลเชิงเอกสารและการสัมภาษณ์เชิงลึกผู้เชี่ยวชาญด้านนิติวิทยาศาสตร์ทั้งของไทยและกัมพูชา ที่มีประสบการณ์การทำงานด้านนิติวิทยาศาสตร์มากกว่าสี่ปี

ผลงานวิจัยพบว่า นิติวิทยาศาสตร์ของประเทศกัมพูชาไม่ได้ถูกนำไปใช้ใน กระบวนการยุติธรรมเท่าที่ควร เจ้าหน้าที่ตำรวจอาศัทยานุศลมากกว่าการใช้หลักฐานทางนิติวิทยาศาสตร์ส่งผลให้หลายคดีถูกยกฟ้องเนื่องจากไม่มีหลักฐานที่มีน้ำหนักมากพอ เจ้าหน้าที่ตำรวจส่วนใหญ่ไม่มีองค์ความรู้ทางด้านนิติวิทยาศาสตร์ เนื่องจากไม่มีการจัดการเรียนการสอนทั้งในมหาวิทยาลัยของรัฐและมหาวิทยาลัยของเอกชน ส่งผลให้เกิดปัญหาอย่างต่างๆ ตามมา เช่น การขาดแคลนอุปกรณ์ด้านวิทยาศาสตร์ การขาดแคลนเจ้าหน้าที่ตำรวจที่มีองค์ความรู้ด้านนิติวิทยาศาสตร์ซึ่งจากการสำรวจพบว่าประเทศกัมพูชามีเจ้าหน้าที่ตำรวจที่มีความรู้ด้านนิติวิทยาศาสตร์เพียง 145 คนทั่วประเทศ การขาดแคลนงบประมาณสนับสนุนตลอดจนปัญหาทางด้านการเมืองที่รัฐบาลไม่เห็นความสำคัญของงานด้านนิติวิทยาศาสตร์ เป็นต้น จากการวิจัยพบข้อเสนอแนะเพื่อการพัฒนางานด้านนิติวิทยาศาสตร์ของประเทศกัมพูชา คือ รัฐบาลควรให้ความสำคัญกับหลักฐานด้านนิติวิทยาศาสตร์มากกว่าพยานบุคคลควร เพิ่มค่าตอบแทนให้เจ้าหน้าที่ที่ทำงานด้านนิติวิทยาศาสตร์เพื่อขวัญกำลังใจในการทำงาน ควรจัดให้มีหลักสูตรอบรมด้านนิติวิทยาศาสตร์อย่างน้อยปีละหนึ่งครั้งเพื่อแลกเปลี่ยนองค์ความรู้โดยเฉพาะองค์ความรู้ของประเทศต่างๆ ควรกระจายเจ้าหน้าที่ตำรวจผู้เชี่ยวชาญด้านนิติวิทยาศาสตร์ส่วนหนึ่งไปปฏิบัติหน้าที่ในต่างจังหวัด ประการสุดท้าย รัฐบาลควรสนับสนุนทุนการศึกษาต่างประเทศเพื่อผลิตบุคลากรที่มีความรู้ความสามารถมาพัฒนางานด้านนิติวิทยาศาสตร์กัมพูชาให้เจริญรุ่งเรืองต่อไป

200 หน้า

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LIST OF ABBREVIATION

1. DNA : Deoxyribonucleic acid
2. ECCC : The Extraordinary Chambers in the Courts of Cambodia
3. ASEAN : Association of Southeast Asian Nations
4. AFSN : Asian Forensic Science Network
5. CMAC : The Cambodian Mine Action Center
6. SWOT : Strengths, Weaknesses, Opportunities, Threads
7. CIPP : Contexts, Inputs, Processes, Products
8. POSDCORB : Planning, Organizing, Staffing, Directing, Coordinating
Reporting & Budgeting
9. AEC : Asean Economic Community
10. CJS : Criminal Justice System
11. MoI : Ministry of Interior
12. MoJ : Ministry of Justice
13. CCJAP : The Cambodian Criminal Justice Assistant Project
14. CNP : Cambodian National Police
15. UNTAC : United Nations Transitional Authority of Cambodia
16. LICADHO : The Cambodian League For The Promotion And Defense
of Human Rights
17. CJM : Council of Justice Ministry
18. CDP : Cambodian Defenders Project
19. LAC : Legal Aid of Cambodia
20. JPAC : Joint POW/MIA Accounting Command
21. DC-CAM : Documentation Center of Cambodia
22. CSI : Crime Scene Investigation
23. EOD : Explosive Ordnance Disposal
24. CCTV : Closed Circuit Television

LIST OF ABBREVIATION (cont.)

25. MOU : Memorandum of Understanding
26. SBI : Special Background Investigation

CHAPTER I

INTRODUCTION

1.1 Significance of the Problems

Forensics is the term given to an investigation of a crime using scientific means. It is also used as the name of the application of scientific knowledge to legal matters because forensic evidence is not exchangeable. So far forensic evidence used beneficially very well such as crime scene examination technique such as taking a photo, fingerprint and footprint examination. Document examination is like comparing signatures, or handwriting, physical examination like driving license or checking car crash scratch. There is forensic medicine to aid investigation such as autopsy examination, forensic pathology, forensic odontology, biochemistry and biological sample examination such as hair, blood, urine and DNA. Forensic evidence is useful for developed countries such as Japan, Europe and The United States of America that had brought the forensic evidence to use usefully especially Japan that had used the forensic evidence to investigate the crime and arrest the murderers until 90% of all cases (*Asia Human Rights Committee, 2005: online Data*).

Forensic science plays an important role for finding the truth whether who the criminal is. Witnesses can be changed when they are forced, bribed, threatened, or threatened to kill, but forensic science cannot be changed and no-one can change. Forensic science is not only for finding the offenders, but also can show the purity of suspects. Forensic evidence is recognized and unchanged since it is scientific evidence which found by examination such as gun examination, bullets examination, blood examination and so on.

The impact of forensic science is that when it cannot find the results of examination among evidence and suspect. On the other hand, as forensic science is not used to certify the wrongdoers, it could be concluded that forensic system is weak, so

forensic science is necessary to development in order to reach standard forensic science.

Cambodia officially known as the Kingdom of Cambodia, Preăh Réachéanachâk Kâmpŭchéa, IPA: and once known as the Khmer Empire, is a country located in the southern portion of the Indochina Peninsula in Southeast Asia. Its total landmass is 181,035 square kilometres (69,898 sq mi), bordered by Thailand to the northwest, Laos to the northeast, Vietnam to the east, and the Gulf of Thailand to the southwest.

Cambodia has a population of over 15 million. The official religion is Theravada Buddhism, practised by approximately 95 percent of the population. The country's minority groups include Vietnamese, Chinese, Chams, and 30 hill tribes. The capital and largest city is Phnom Penh, the political, economic, and cultural centre of Cambodia. The kingdom is a constitutional monarchy with Norodom Sihamoni, a monarch chosen by the Royal Throne Council, as head of state. The head of government is Hun Sen, who is currently the longest serving non-royal leader in South East Asia and has ruled Cambodia for over 25 years (*Wikimedia*).

Cambodia is one of many developing countries such as standard of living, luxurious things, technologies, especially forensic science that used for collecting the evidence in order to arrest the offenders. There were many cases happened without finding the wrongdoers to get through justice system. Until the Khmer Rouge regime, there were people were killed by variety of patterns if only it was so sad for Cambodian people to say about Khmer Rouge because at least there were one or two members of the families were killed without reasons and accusing.

In fact, Cambodian needs to find the truth for all types of victims were miserable at that regime which unforgettable situations stuck with their brain till the present. The problems are lack of management, budget, personnel, forensic instruments, other factors that are denied to inform. Researchers believed that the Khmer Rouge is considered among the worst human history because only in killing fields (Tuol Sleng Prison in Phnom Penh) executed over 20,000 Cambodian. *Melanie Klinkner* wrote on the book namely “Forensic Science for Cambodian Justice” argued that:

...Between 17 April 1975 and 7 January 1979, the Pol Pot regime, in its desire to create an agrarian, Marxism-inspired utopia, is believed to have caused the deaths of between 740,000 and 3,314,000 people through execution, torture, overwork, starvation and disease. The debate about 'the numbers' is ongoing. The director of the Genocide Studies Program at Yale University, Ben Kiernan, relying upon demographic data and a comparison of pre-1975 and post-1979 population figures, believes that the death toll is 'between 1.671 and 1.871 million people, 21 to 24 percent of Cambodia's 1975 population,'¹⁰ whilst Bruce Sharp argues that it is around 2.18 million.¹¹ The Cambodian people, rightly or wrongly, refer to the atrocities committed during the period of Democratic Kampuchea as genocide,¹² and they await justice to this day...

Forensic science is used for evident collection whilst mass grave evidence from the Khmer Rouge era is referred to in history and social science publications in Cambodia; it has not been used in a legal context, not even in the 1979 *in absentia* trial of Pol Pot and Nuon Chea, Khiev Samphan and Ieng Sary have been charged with both crimes against humanity and war crimes. The establishment of the Extraordinary Chambers in the Courts of Cambodia (ECCC) creates an opportunity for a review of this evidence 30 years after the events (2008, *Klinkner*).

Since that day when made the Leng Sary, Nuon Chea, and Khiev Samphan trial in 2008, forensic science was given the importance and more acceptable from Cambodian people who did not use it so many years as active practice. Before procedure of evident collection was practiced by witness only, so it was not enough use because sometimes witness was rented and forced to say the fake in the court.

Forensic science is under the Department of Technical Scientific Police, Central Justice Police, Ministry of Interior, Cambodia. For structure of Department of Scientific Technical Police through Procedure Code, Article 109 dated on 19th August, 2015 in which new law to limit about the duty and function of Department of Scientific Technical Police. Department of Scientific Technical Police is under Department of Central Justice Police, and Department of Central Justice Police is

under General Commissariat of National Police, and General Commissariat of National Police is under Ministry of Interior. Just for clarification, there are six expert offices in Department Scientific Technical Police. One of six offices is an administrative office, and other 5 offices are expert ones.

The function of the Department of Technical Scientific Police is to collect the evidence from the crime scene, keep the evidence, proof the evidence especially examines the evidence in order to arrest the offenders who have made the wrongdoings.

However, bringing the forensic science is key instrument of resolving the crime, collecting the evidence, and examining the evidence to enhance the justice for victims, but the evident examined system in Cambodia still faces with obstacle of various processes such as finger prints, bloodstain, slash, graffiti of crime scene because every evidence in the crime scene can be brought to find the real evidence of investigative police to arrest the offenders or suspects are also asked to investigate. But the forensic system still has variety of problems such as problem of forensic physician, problem of enhancing the justice, problem of cancelling the complaint to the court because of lack of evidence, problem of management, and problem of cooperation between Department of Scientific Technical Police at Ministry of Interior, Ministry of Health (Autopsy Case) and related agencies. Some problems are considered as the obstacles of the human rights, so the states and the public should give the importance or other models in order to keep the crime scene original after crime caused. Evidence, postmortem, including other knowledge related to forensic work, especially there were are many suspected deaths, and homicide that could not standardize to find the evidence because forensic evidence in Cambodia did not be recognized by developed countries such as Europe, U.S.A and Japan that they used forensic evidence efficiently in collecting the evidence (.

However, forensic instrument is very important for supporting the forensic evidence. When the country does not have enough ability to invest with the instruments, there is no ways to resolve the problems easily. Some evident collection, we do not need to use supported tools to help such as real evidence that we can see by ourselves, eyewitness, environmental evidence, and something, in which we could find

in the crime scene. But, please look at the evidence that we could not decide to indicate such as fingerprint, bloodstain, and hair and so on.

The Association of Southeast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand. Brunei Darussalam then joined on 7 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up what is today the ten Member States of ASEAN. The ASEAN Community is comprised of three pillars, the Political-Security Community, Economic Community and Socio-Cultural Community. Each pillar has its own Blueprint approved at the summit level, and, together with the Initiative for ASEAN Integration (IAI) Strategic Framework and IAI Work Plan Phase II (2009-2015), they form the Roadmap for and ASEAN Community 2009-2015. The most reasonable one is that, in upcoming soonest 2015 our ASEAN Economic Community will be happened in ten countries, so I believe that there are businesses will go to invest in Cambodia, especially Thailand since we have nearby border. And I think the problems there may be transnational crime mostly. However, one country gets trusted from the world, must provide the justice for everyone who live, that's why the countries which are going to invest, will feel warm with the situation of living and not afraid the crime. As set out in the ASEAN Declaration, the aims and purposes of ASEAN are: to accelerate the economic growth, social progress and cultural development in the region through joint endeavours in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of Southeast Asian Nations; to promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter; to promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields; to provide assistance to each other in the form of training and research facilities in the

educational, professional, technical and administrative spheres; to collaborate more effectively for the greater utilisation of their agriculture and industries, the expansion of their trade, including the study of the problems of international commodity trade, the improvement of their transportation and communications facilities and the raising of the living standards of their peoples; to promote Southeast Asian studies; and to maintain close and beneficial cooperation with existing international and regional organizations with similar aims and purposes, and explore all avenues for even closer cooperation among themselves.

Among 10 member countries in ASEAN community, Cambodia is one of member that is not a member of ASIAN Forensic Science Network, its member countries set meeting and exchange knowledge with each other every year. There are six countries that joined Asian Forensic Science Network (AFSN) such as Brunei, Malaysia, Philippines, Thailand, Vietnam and Singapore. The objectives of AFSN establishment are to exchange forensic knowledge, to create forensic quality system by group discussing, training, capacity test, and quality assurance.

The first meeting of AFSN was set on November 12-13, 2009 in Malaysia. There were 4 workgroups such as DNA workgroup, illicit drug workgroup, trace evidence workgroup, and quality assurance and standards. The second meeting was set in Brunei on June 1-3, 2010 and added another workgroup is toxicology workgroup, and third meeting was set up continuously in South Korea from 25-27 November, 2011. Present time, there are 27 agencies and 11 foreign countries (included other countries besides the ASEAN) are members of AFSN. The member countries of AFSN are Thailand, Singapore, Malaysia, South Korea, Brunei, Indonesia, Philippines, China, Vietnam, Lao and Mongolia. Later, fourth meeting was set up in Thailand from 26-28 November, 2012 at Rama Gardens Hotel, and continuously set the meeting for 5th times in Thailand again on 29-30 November, 2013 in the occasion of 10th years anniversary of the Central Institute of Forensic Science (CIFS), Thailand associated with mission exhibitions, and guidelines for forensic science development to enhance the justice system (*Asian Forensic Sciences Network, 2013*).

So Cambodia is not in these members that are why researcher would like to study this research for making forensic science in Cambodia better than this under sustainable development by studying the problems and obstacles concerning to

forensic works in Cambodia, and then set strategic development on forensic science that is a part of preparing to join AFSN. The defect

1.2 Objectives of the Research

1.2.1 To study the current situation on forensic science of Cambodia

1.2.2 To study the conditions and factors related to forensic works in Cambodia

1.2.3 To study the strategic development of forensic science in Cambodia

1.3 Questions of the Research

Therefore, the inevitable questions for this research are what the current situations of forensic work in Cambodia are? What are the main problems and obstacles of forensic works in Cambodia at present? And what the factors concerning to forensic works in Cambodia are including how to develop strategic procedures for forensic works to the ASEAN community approach?

1.4 Units of Analysis

This study focuses on Strategic Development of Forensic Science in Cambodia for the ASEAN Community. The places of study are Department of Technical Forensic Police, Ministry of Interior in Cambodia, Cambodian Mine Action Center (CMAC), and related agency in the Phnom Penh City only. The duration of research is starting from June 2015 to April 2016. The study is specifically analyzed the facts of forensic science in Cambodia because researcher would like to receive the data of current forensic science, problems and obstacle concerning to forensic works in Cambodia. Sampling research of this study is government officers, investigative

police, inquiry Officials, forensic staffs, forensic physicians and related institutions in Cambodia and Thailand.

1.5 Conceptual Framework

The conceptual frame of this study, researcher will study about strategic development on forensic science of Cambodia from Royal Thai Police, Central Institute of Forensic Science, and Department Scientific Technical Police, Ministry of Interior, Cambodia. Firstly, researcher will specifically study present situation of justice enhancing in evident collection and evident examination. This study is conducted with systematic research such as data and analysis related to inputs, process, and outputs including the problems and obstacles of work practice and will study the standardized justice enhancing.

Justice providing is referred to the complaint, inquiry procedure, evident collection, and investigative filing management. This study is divided the justice enhancing into two systems 1) justice enhancing system for the public and justice enhancing system for Department of Scientific Technical Police, Ministry of Interior, Cambodia, in which the problems of police officers are divided into two dimensions.

The first dimension is the problem with system which happened the Department of Technical Scientific Police, Ministry of Interior, Cambodia such as problem all number of forces that is not appropriate with real practice force, Problem of procedure delay of case to develop the justice process that the some procedures are not updated with present society changes and technological evolution including high expenditure on case process caused the problem of limited budget.

The second dimension is service providing for the public, in which the police officers will have to process from crime scene check, crime scene protection, the complaint reception, inquiry, investigation, the offender interrogation, injured person interrogation, providing the fairness for injured person, telling news to injured person's relatives and case trial at the court and so on.

Researcher defines the conceptual framework of this study titled “Strategic Development of Forensic Science in Cambodia for the ASEAN Community” in the figure below.

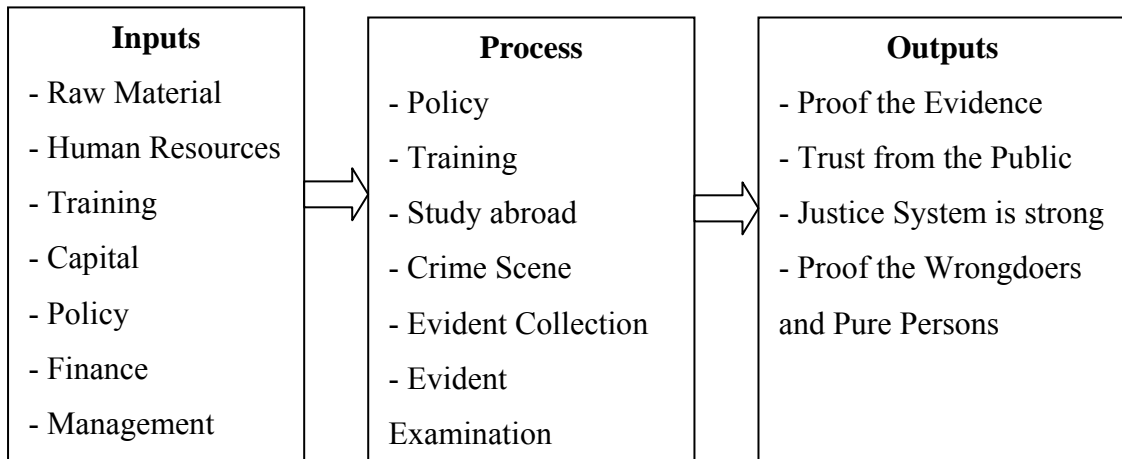


Figure 1.1 Conceptual Framework

1.6 Operational Definitions

A. Strategic Development

P1. Generalization: it involves looking at the organization as a complete entity and is concerned with its long term development. Developing the plan is a process that may involve discussion with a number of different stakeholder groups and should take place over a period of time.

P2. In this research: it means that it is the way to find the best guidelines related to forensic science from Thailand to apply in Cambodia. Here is important to study and find the SWOT of forensic science, also related agencies in order to get the strengths and weakness for finding new strategic development on forensic science in Cambodia.

B. Forensic Science

P1. Generalization means that it is any science used for the purposes of the law, and therefore provides impartial scientific evidence for use in the courts of law, e.g. in a criminal investigation and trial.

P2. In this study, it refers to functions or process in evident collection, document evidence, witness, and other related evidence that happened of crime scene in criminal cases and bring the evident materials to examine by using the forensic scientific system and process of police science.

C. Inputs

P1. Generalization: Resources such as people, raw materials, energy, information, or finance that are put into a system (such as an economy, manufacturing plant, computer system) to obtain a desired output. Inputs are classified under costs in accounting.

P2. In this study, it means evident collective data, evident examination, and inputs here also mean that evident examined staffs, tools/instruments for examining the evidence, management, rules of police, material evidence/witness, budget and training.

D. Process

P1. Generalization means an instance of a computer program that is being executed. It contains the program code and its current activity. Depending on the operating system (OS), a process may be made up of multiple threads of execution that execute instructions concurrently.

P2. In this research means to steps, patterns and evident collection, evident examination of evident examined officials and investigative and inquiry police

E. Outputs

P1. Generalization means: 1) the amount of energy, work, goods, or services produced by a machine, factory, company, or an individual in a period, 2) computing: A result produced by a computer that is internal to the system (from one program or process to another) or external to it (from a program or process to an output device) but internal to an output device (modem, monitor, printer, etc.), and 3) contracting: The desired result from a project or contractor.

P2. In this study, it means efficiency of enhancing to the justice for the public in evident collection and evident examination including problems, obstacles and factors to enhance the police work in evident collection.

F. Outcome

P1. Generalization means probability theory, an outcome is a possible result of an experiment. Each possible outcome of a particular experiment is unique, and different outcomes are mutually exclusive (only one outcome will occur on each trial of the experiment).

P2. In this study, it means that the results, in which we get from the forensic science for giving the justice for all-the public. What researcher expects to get is that enhancing the justice for the public, support the police work and strategic development of forensic science in Cambodia.

1.7 Expected Benefits of the Study

1.7.1 To know about the present situation, obstacles, problems and factors concerning to forensic science in police work of evident collection and evident examination in Cambodia

1.7.2 To be primary data to improve the forensic works in Cambodia for the ASEAN Community

1.7.3 To receive data concerning to inputs, process, outputs of forensic science to enhance the justice for the public.

CHAPTER II

REVIEW LITERATURE

The review literature consists of related information relying on the research articles, books, official documents, academic documents, newspaper, and materials from the Internet and so on. The presentation of the prior findings and related literature is divided into four parts. The first part rises about concepts and related theories such as knowledge management, concepts of efficiency, enhance the justice, lesson learned visualizing, SWOT analysis, system analysis, organizational concepts, and development of police affair system. Second part presents about inquiry and investigation. Third part shows about evident examination and evident collection. And the last part illustrates related researches which could be brought to use for strategic development forensic science of Cambodia to get the justice in evident collection and evident examination as following:

- 2.1 Concepts and Related Theories
- 2.2 Inquiry and Investigation
- 2.3 Evident Examination and Evident Collection
- 2.4 Related Researches

2.1 Concepts and Related Theories

For this study, I choose the concepts and theories for developing the efficiency of enhancing the justice of Department of Scientific Technical Police, Ministry of Interior in evident collection and evident examination for the public as followed:

- 2.1.1 Concept of Enhancing the Justice
- 2.1.2 Lesson Learned Visualization
- 2.1.3 SWOT Analysis for Strategic Development

- 2.1.4 Concept of System Analysis
- 2.1.5 International Evident Examination
- 2.1.6 Basic Concept of Organization
- 2.1.7 Concept of Police Affair System
- 2.1.8 Concept of Evident Collection
- 2.1.9 Criminal Justice System in Cambodia
- 2.1.10 Forensic Science in Cambodia

2.1.1 Concept of Enhancing the Justice

The justice enhancing of police function is basically important both work practicing of police themselves and for justice system. In present, enhancing the justice of police officers both in Cambodia and Thailand focused on only investigation and inquiry, specifically criminal case inquiry which is the first step of justice system in Thailand and Cambodia in order to get highly efficient investigation and inquiry. So it needs to bring technology and forensics as special tools to examine the offence of suspects that study found that enhancing the justice could be given the meanings as follow:

Piyaphan Pingmeung (2001, P 9) gave the meaning of enhancing justice for the public refers any proceeding in functions of inquiry officials federally follow with the law and regulation defined. To make the justice for two sides litigant both injured person and suspect that both of them are the same people will get humanization of institutional law which is not partial to any side.

Samkeout Chanpraktes (1997, P 28) gave the meaning of enhancing justice in investigation of criminal case refers to managing suitable inquiry officials with number of cases in turn which change staffs to advice or introduce the problems of law to the public. Informing the arrest news to arrestee relatives rapidly and informing the case result sporadically as case happened, there is equal service for everyone.

Sorachaet Thobunnhanun (1994, P 5) argued that enhancing justice refers some steps else which police concerns of other case proceedings such as complain notification, inquiry proceeding, evident collection and inquiry case management.

Sakol Keopuongkham (2000, P 142-143) suggested practice of enhancing justice to the public of inquiry officials consists of:

1. Radicalism to protect human's rights in society as main objectives
2. Using legal method and not violation the rights or freedom
3. Having justice power equally of law enforcement by no discriminating any person in the society.
4. Having independence in enhancing justice for the public both intrinsic and extrinsic independence. Intrinsic independence refers to independence from prejudice of inquiry officials or any bias act. Extrinsic independence refers to independence from political trend or order from someone.
5. Having efficient and rapid justice power because work slowly or delay it means that there is no justice and higher expenditure.
6. Justice enhancing must be transparent and check-able to protect the human rights in the society and protect the society fairly.

Aryuth Sinthobphan (2000, Abstract) understood that measurement of enhancing justice for victim will be limited measured frame clearly in order to prevent and protect the does for those short and long periods systematically. Specifically, to coordinate and examine or pay attention to proceed the work among agencies of justice system is to proceed the case fairly and impartially. According to giving the definition of enhancing justice described above could be concluded that justice enhancing refers to any case proceedings in functions of police officers for victims and litigant fairly and equally in frame of law and regulation enacted.

Royal Thai Police understood the importance of justice enhancing for the public and criminal victims whom defined in frames of justice enhancing that is one principle scheme of five schemes of model schemes in Royal Thai Police, four editions (2002-2006). The objectives of schemes in justice enhancing are:

1. To get the public receive the legal protection equally and fairly which could be believed by the public in justice enhancing with active participation of police duties.
2. To correct develop investigative, inquiry, administrative system, specialized, updated, efficient, scientific technology and forensics.

3. To correct and develop qualified, virtue, ethical inquiry officials properly and more professional in inquiry.

4. To cooperate between related organizations or agencies in justice system both inside and outside the country more closely of support justice enhancing faster, correctly and appropriately for global society.

5. To correct and develop the law, regulation, order, and suitable guidelines of practicing with situation both in present and future for making the public believe in and authority practitioner will receive protection via the law.

In conclusion, justice enhancing in evident collection and evident examination is work practice of police officers includes inquiry officials, detectives, forensic police fairly and equally. With defining the measurement frame of work clearly prevent and protect injured person both short and long period systematically. Specific practice is paid attention to check and process the case gradually and fairly without discriminating any person.

So, I myself have seen this important article, I would like to study compare the best points from Thailand to develop and correct the lack points in Cambodia which needed many development resources regarding this code is really useful for Cambodia any way.

2.1.2 Lesson Learned Visualization

Lesson learned visualization is review or work experience in other aspects to see in details both intrinsic and extrinsic factors which causes the results successfully and unsuccessfully in the present time. It can be visualized to search or find knowledge from work practice by using extract knowledge and in-depth experience including detailed accordance the procedures of work practice, work results, and new knowledge that had happened between successful and unsuccessful work regarding to the guidelines to correct work in order to achieve the goals and enable to share knowledge with others.

Lesson learned visualization is technique of knowledge management which focus on systematic learning system to extract the in-depth hidden knowledge in human and local knowledge appears. The lesson can be totaled and synthesized to be

real knowledge set documents such as handbook, treatise and so on that other people can learn and bring to use more qualified work practice.

Besides this, lesson learned visualization also refers to pulled system causes from what we have done in order to get the best practice and bad practice (Prachasan Senpakdy: www.prachasan.com)

So, lesson learned visualization is part of knowledge management which has goals to search knowledge from work practice, to get in detail of steps or record work results including new knowledge causes from work practice to be guideline for develop better work and to achieve the goals that could be share focus on speaking, storytelling, and synthesizing.

Models of general lesson learned visualization is divided into two:

1. Lesson learned visualization of specific issues is lesson visualization the activities of specific important project and can be brought lesson visualization from those activities to use beneficially of successful project development in the future.

2. Whole project lesson learned visualization is whole system visualization which begins with background of project, process and output at the end of project. These two lessons learned visualizations must be analyzed deeply like SWOT analysis to study the factors and condition to results of project process.

Lesson learned visualization procedures are divided into principle four steps as following:

1. Preparation of lesson learned visualization
2. Implementation of lesson learned visualization
3. Report writing of lesson learned visualization
4. Pay attention to use lesson as benefits

Researchers have the concepts of lesson learned visualization to analyze for recording the lessons in evident collection and evident examination. To visualize the lessons related efficiency in justice enhancing, evident collection from crime scene, witness, evident materials, inquiry data, investigation, and evident examination from forensic sciences such as latent fingerprints, teeth marks, and exudation were found in evidence materials. Lesson learned visualization is described to visualize

some related parts in successful evident collection, evident examination, and related parts with problems of justice enhancing, justice enhanced situation of Royal Thai Police, input, process, and output which get from work practice in evident collection and evident examination.

2.1.3 SWOT Analysis for Strategic Development

SWOT analysis is an organizational analysis or institution in the present time to find out strengths, weaknesses, opportunities, threats and other important problems which may be useful in process of the organization in the future.

Principles of SWOT analysis are analyzed by two situational surveys as internal and external situations, so SWOT analysis can be called “Situation Analysis” where analysis about strengths, weaknesses to know ourselves, environment certainly and obstacle-opportunity analysis, variety of factors analysis both internal and external of the organization. It can help organizational executive aware of other changes in the organization which will happen within organization both had caused and will likely changed in the future including impacts of change to the business organization, strengths, weakness and capacity existing in the organization. This analysis is useful for defining the visions, strategies, and strategic process.

SWOT analysis is various environmental analyses both internal and external of the organization which these factors are explained whether have influence to process of the organization. The strengths of the organization are internal capacity which used to achieve the goals while the weaknesses are internal attributes. It can destroy the environmental process when situations will provide opportunities to achieve the goals of the organization. In opposite ways, environmental obstacles will be the situations which interrupt the goals of the organization. The results from this SWOT analysis will use guidelines of visions defining, strategic defining to making the organization improved in the suitable ways.

Strengths and weaknesses are often internal to your organization, while opportunities and threats generally relate to external factors. For this reason the SWOT Analysis is sometimes called Internal-External Analysis and the SWOT Matrix is sometimes called an IE Matrix.

Consider your strengths from both an internal perspective, and from the point of view of your customers and people in your market. You should also be realistic - it's far too easy to fall prey to "not invented here syndrome." Also, if you're having any difficulty with this, try writing down a list of your organization's characteristics. Some of these will hopefully be strengths! When looking at your strengths, think about them in relation to your competitors. For example, if all of your competitors provide high quality products, then a high quality production process is not strength in your organization's market; it's a necessity (Albert S Humphrey in the 1960s).

Procedures and methods of SWOT analysis process will hold scope of comprehensive factors which specifies strengths, weaknesses, opportunities and obstacles of the organization cause to have directional defining or goals created in strengths of the organization that finds the benefits from environmental opportunities and can define the aimed strategies to win environmental obstacles. SWOT analysis is analyzed by environment internally and externally of the organization as following steps:

1. Organizational environment assessment is environmental assessment within organization related to resource analysis, resource consideration and ability of every sector within organization to specify the strengths and weakness of the organization. Sources of basic data assess internal environment is data system to administrate and cover every sector consists of structure, regulation, method, atmosphere of working place and resources of management (human, money, material, govern) including consideration results of the organization so far to understand the situation.

Internal analysis of the organization should include its culture, expertise, resource and unique qualities within the market place. The extent to which organization could adapt to changing circumstances is also a factor that needs to be considered.

2. External environment assessment is under external assessment of any organization which could find opportunities and obstacles of process in organization. Impacts in which receive from domestic and international economic environment

concerned with organizational process such as economic growth, policy, finance, fund, and social environment of which education and literacy of the public, settlement and migration of the public, community characteristics, traditions, values, belief and cultures. Whereas political environment is statute, decree, cabinet, and technological environment refers to new processes and tool development, efficient instructions of production and services. Environmental opportunities are external analysis of the organization. Any factor effects to benefits both directly and indirectly to process of macro organization, and organization could snatch advantages for making the organization stronger and stronger. T-Threats are external analysis. Any factor effects macro to lose both directly and indirectly where organization needs to avoid or correct the organization for facing with other impacts.

3. Situation identification for environmental assessment as collected as strengths-weaknesses, opportunities-threats from internal factor analysis after making assessment both external and internal environment, internal strengths-weaknesses to compare with external opportunities-threats whether the organization has to face with. What the organization should do next? Generally SWOT analysis is divided into four situations as following explanations:

(1) First situation is strengths and opportunities. This situation is the most desired because there are many kinds of organizations. Thus, organizational executive should define aggressive strategy to reach the existing strengths for building, deploying and snatching the opportunities which opened for benefits fully.

(2) Second situation is weaknesses and threats. This situation is the worst situation because the organization is facing with a number of external threats and internal weaknesses. Hence, the best choice is defensive strategy for trying to reduce or avoid the other threats that may approximately happen include to be enabling organization the least loss.

(3) Third situation is weaknesses and opportunities. This situation of the organization has opportunities to get challenging advantages, but complicate with not less weaknesses, too. So, resolution is Turnaround-Oriented Strategy to govern or amend various weaknesses for snatching opening opportunities.

(4) Fourth situation is strengths and threats. This situation happens because of unfavorable environment to work process but advantageous organization of

strengths, so replacement will wait for changing environment for enabling to choose diversification strategy to deploying from strengths built long opportunities instead.

Considerations of SWOT analysis consist of two items:

1. Analysis identification should deeply be done to get real important factors, main causes of exact problems - useful factors are brought to set the policy until it could be set strategy for the organization and the public receive the outputs from these.

2. Various factors setting should not be defined the meaning of other elements. Not only weaknesses, strengths, opportunities, but also threats should have related definitions.

Here, it will rise about advantages and disadvantages of SWOT analysis. The popularity of SWOT analysis is down to its simplicity and flexibility. It is easy to everyone to understand and its implementation does not require any technical knowledge or specialist training.

The SWOT methodology can condense a large number of situational factors into a manageable number, but it does encourage a tendency to oversimplify the situation and can be unduly influenced by vested interests with the organization. This is particularly apparent when conducting a high-level organizational SWOT. For instance,

It is subjective decision as to whether or not a particular organizational culture should be classified as strength or weakness. Those responsible for the prevailing culture will see it as strength not matter what, whereas those who have less invested may be more objective and see it as a weakness in certain circumstance. A technological change may be considered a threat or an opportunity depending on perspective. Those who own their job and status to an existing technology are likely to view any change as a threat to their position and therefore to be avoided. Others who have no vested interest may consider it is as an opportunity.

Those responsible for developing strategy need to be aware of these issues of oversimplification and vested interests, and try to take them into account. This is always going to be difficult; however, if senior management has a reputation for being unwilling to consider options that may threaten the current business model.

Another problem with SWOT is that there are no obvious limits as to what is and is not relevant. The chair managing the SWOT discussions needs to keep everyone involved to focus on what is important in achieving the objectives, rather than just creating lists of the issues and classifying them arbitrarily without any external reference.

It is also necessary to add an element of priority to the list of factors in each of the four categories. Otherwise, you may decide that opportunities and threats balance each other out, when in fact the threats pose a greater risk to the organization than the weaker opportunities it could take advantage of.

SWOT Analysis is a simple but useful framework for analyzing your organization's strengths and weaknesses, and the opportunities and threats that you face. It helps you focus on your strengths, minimize threats, and take the greatest possible advantage of opportunities available to you.

SWOT Analysis can be used to "kick off" strategy formulation, or in a more sophisticated way as a serious strategy tool. You can also use it to get an understanding of your competitors, which can give you the insights you need to craft a coherent and successful competitive position.

When carrying out your SWOT Analysis, be realistic and rigorous. Apply it at the right level, and supplement it with other option-generation tools where appropriate.

2.1.4 Concept of System Analysis

System Analysis is participation of structure or a kind of process which manage the relation order between various elements with structures process.

System is scientific process used in planning and other proceedings in order to accomplish the objectives defined. Elements of this method consist of four items as following:

- 1) Input
- 2) Process
- 3) Output
- 4) Feedback

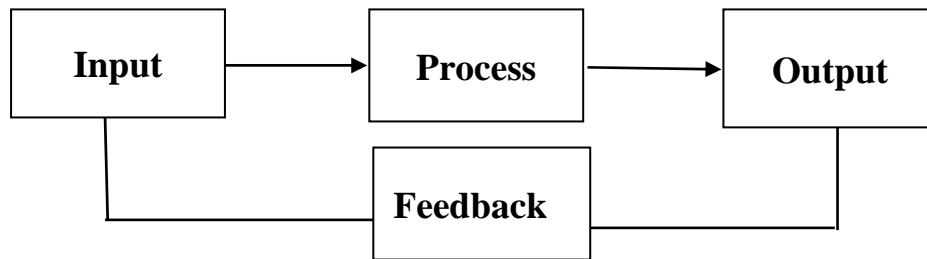


Figure 2.1 Elements of system theory

Good method and system are needed to manage existing resources for economic and suitable using with environment and situation. To work efficiently, to accomplish defined goals if system has both qualitative and quantitative output more than input raw material data input. It is considered as qualitative system. In opposite, any system has lower raw material output considered as lower efficient system. Input is referred to necessary things used in process or structure such as budget, human, material and equipment, and so on. Process is referred to bringing input to accomplish the objectives such as activities and process in the structure and so forth. Output is referred to results from working such as awards promotion, workmanship or impacts and so on. System theory is used for explanations whether there is any output happened from process of organization and output above has conditions causes. Input of the organization, process used in the structure and conclude context will be able to have both negative and positive projects.

System theory is similar to concept of CIPP which has systematic process and has input, process, and output receive from process, but the different thing is that system theory has feedback where could reflex whether the process above gets successful or failed. How is efficiency for work?

System theory is also analyzed by some theorists. Bio-psychosocial assessment and the development of appropriate intervention strategies for a particular client require consideration of the individual in relation to a larger social context. To accomplish this, we use principles and concepts derived from systems theory. Systems theory is a way of elaborating increasingly complex systems across a continuum that encompasses the person-environment (Anderson, Carter, & Lowe, 1999). Systems theory also enables us to understand the components and dynamics of client systems in

order to interpret problems and develop balanced intervention strategies, with the goal of enhancing the “goodness of fit” between individuals and their environments. Systems theory does not specify particular theoretical frameworks for understanding problems, and it does not direct the social worker to specific intervention strategies. Rather, it serves as an organizing conceptual framework or Meta theory for understanding (Meyer, 1983).

As a profession, social work has struggled to identify an organizing framework for practice that captures the nature of what we do. Many have identified systems theory as that organizing framework (Goldstein, 1990; Hearn, 1958; Meyer, 1976, 1983; Siporin, 1980). However, because of the complex nature of the clinical enterprise, others have challenged the suitability of systems theory as an organizing framework for clinical practice (Fook, Ryan, & Hawkins, 1997; Wakefield, 1996a, 1996b). The term *system* emerged from Émile Durkheim’s early study of social systems (Robbins, Chatterjee, & Canda, 2006), as well as from the work of Talcott Parsons. However, within social work, systems thinking have been more heavily influenced by the work of the biologist Ludwig von Bertalanffy and later adaptations by the social psychologist Uri Bronfenbrenner, who examined human biological systems within an ecological environment. With its roots in von Bertalanffy’s systems theory and

Bronfenbrenner’s ecological environment, the ecosystems perspective provides a framework that permits users to draw on theories from different disciplines in order to analyze the complex nature of human interactions within a social environment. System theory is analyzed in results of justice enhancing of police officers both evident collection and evident examination including it could find feedback of work practice which described above from practitioner groups and the public who comes to take a complaint.

2.1.5 International Evident Examination

Since forensic evident examination and collection happened first in the foreign countries, later even Thailand or Cambodia brought to apply. Thus, researcher would like to study specifically on evident examination and evident collection in order

to understand more clearly about the principles and how to use it including the problem analysis related to forensic evident examination and evident collection.

2.1.5.1 France

Criminal procedure system is divided into various courts based on kinds of cases as following:

“Contraventions” is a kind of case that defendant is just fined such as making noise, small argument OR bothering shall be sent to tribunal de police OR city criminal courts, in which there is only one judge and prosecutor is the one who makes decision whether complaint or not to defendant.

“De’lits” is a case penalized maximum 10 years such as unintentional murder, drug use, intentional physical abuse, stealing, drink and drive shall be sent to tribunal correctional. There are three judges for this case or one judge based on penalization. Such a case shall be controlled and ordered by prosecutors except severe penalty. In the consideration of the office of supreme prosecutor shall submit folder of files to the judges for making a decision to complaint or not.

“Crime” is penalized from 10 years to life imprisonment such as rape, recidivism, murder, robbery, OR frauds shall be sent to Cour d’assises. There are three judges for this case and jury joins and judge the case. And 12 others shall consider for the second times. Before the case gets through the criminal procedure code in Cour d’assises, shall be suggested to folder of case file to Chamber d’accusation, in which consists of the appeal court amount 3 persons to investigate that complaint or not. For this investigation, prosecutor and lawyer are the ones who present folder of case files.

In France, there is scientific evidence examination called “Forma”, in what, it is complicated for keeping and maintaining chain of custody of samples at crime scene if any authority searches on the crime scene has not followed this forma 1, that evidence shall not be used in criminal procedure trial.

Scientific evident searching France is enacted in Code of Criminal Procedure, in which divided into kinds as following:

In Article 55-1, a judicial police officer may carry out or supervise the taking of non-intimate samples from any person able to provide

information about the offense in question, OR from any person against whom there exists any plausible reason or reasons to suspect that he has committed or attempted in commit any offense, in order to carry out technical and scientific tests comparing them with traces or clues obtained for the purposes of the inquiry.

He carries out or oversees measures to record identifying features, and in the particular the taking fingerprints, palm prints OR of photographs necessary for consulting the relevant police files, and adding information to them, pursuant to the regulation applicable to the file in question.

The refusal, by a person against whom there exists any plausible reason reasons to suspect that he has committed or attempted to commit an offense, to comply with the procedures mentioned in the first and second paragraph and ordered by the judicial police officer to be taken, is punished by a year's imprisonment and by a fine of €15,000.
<http://195.83.177.9/code/liste.phtml?lang=uk&c=34>

Article 706-54 “The national automated database of DNA profile, placed under the supervision of a judge, is designed to centralize the DNA profile resulting from biological traces, and also the DNA profiles of persons convicted of the offences outlined in Article 706-55, in order to facilitate the identification of and the search for the perpetrators of these offences.

Judicial police officer may also, on their own initiative or at the request of the public prosecutor, compare the DNA profiles of any person against whom there exist any plausible reasons to suspect that they have committed a felony or a misdemeanor, with any data in the database; but profiles may not be stored...”.

Article 706-56 “I.- A judicial police officer may obtain or supervise the obtaining of a biological sample from persons mentioned in the first, second and third paragraphs of Article 706-54 to permit genetic profiling. Before carrying out this procedure, he may check or get a judicial police officer to check that the genetic profile of the person concerned is not already stored, for the purpose of his civil status only, in the national automated database of DNA profile.

Where this is a person sentenced for a felony or a misdemeanor punished by ten years' imprisonment, the sample may be carried out

without the consent of the person concerned on the written orders of the district prosecutor.

II. The refusal of person to allow the taking of a biological sample provided for by the first paragraph of section I is punished by a years' imprisonment and by a fine of €15,000.

Where the offences have been committed by a person convicted of a felony, the penalty is two years' imprisonment and a fine of €30,000.

A person subject to this sampling who carries out attempts to carry out maneuvers designed to substitute the biological material of a third person for his own, with or without the consent of this third person, is punished by three years' imprisonment and a fine of €45,000.

2.1.5.2 England

The Code of Criminal Procedure in England uses accusatory system, means on equal footing and competition doctrine. The courts considers that the litigants have equal footing and has no functions to search or investigate the evidence for finding the truth, that, the mentioned functions are duty of litigants.

For scientific evidence examination, England had divided into two kinds together which defined in The Police and Criminal Evidence Act 1984.

Section 65 "intimate sample" means

a. a sample of blood, semen or other tissue fluid, urine or public hair

b. a dental impression;

c. a swab taken from a person's body orifice other than the mouth "Non-intimate sample" means

a. a sample of hair other than public hair

b. a sample taken from nail or from under a nail

c. a swab taken from any part of a person's body including the mouth but not any other orifice.

d. a saliva

e. a skin impression

Section 62 (1)...intimate sample may be taken from a person in police detention only...

62 (A1) intimate sample may be taken from a person who not in, police detention but from whom in the course of an investigation of an offense, two or more non-intimate samples suitable for the same means of analysis have been taken which have proved insufficient

a. If a police officer of at least the rank of inspector authorizes it to be taken and (b) if the appropriate consent is given.

Before a suspect is asked to provide an intimate sample, they must be warned that if they refuse without good cause, their refusal may harm their case if it comes to trial.

Where the appropriate consent is taking an intimate sample from a person was refused without good cause, in any proceedings against that person for offense a) the court, determining, whether to commit that person for trial or whether there is a case to answer.

2.1.5.3 The USA

The Code of Criminal Procedure in USA is limited the authorities, mostly litigants are trying to find the reasons and evidence by themselves. The court responds on controlling the litigants. The prosecutor responds on inquiry for filing the complaint before getting through the court. In the consideration is focused on only the mentioned issues, in which by jury as a judge the court until verdict.

Forensic evident finding in the USA invades on searching, which police officers have their own authority to search for evidence through the law enacted. For the case of somebody search, besides search for something in the body, there is still something outside the as following: Check outside the suspect such as wound, or handwriting. Evident collection from blood testing, which specimen from body like breathing, urine, saliva, or part of body (hair, nail...)

So authority has the power to search or collect from the suspect in order to get through case process in the court. The rights of the people to be secure in their persons, houses, papers or effects, against unreasonable searches, and seizure, shat not be violated and no warrants shall issue, but upon probable cause,

supported by Oath affirmation, and particularly describing the place to be searched and the persons things to be seized.

One cannot understand the rules of evidence applicable in criminal trials today without some appreciation of the historical development of those rules. Evidential rules are the gates through which information flows into our criminal courtrooms; the size and shape of the gate have varied over the life of the United States and other English-speaking nations.

The United States and England share a common judicial heritage. Most of the early rules of evidence were made by English courts, and some were made by English parliaments. These early rules of evidence were brought to the American colonies and used by the first English settlers. The same rules were used by other English-speaking colonies, such as Canada and Australia, and were known as common-law rules of evidence. Because of this common heritage, many similarities exist even today in the laws of evidence used in English-speaking countries. The following account of the first murder trial in the American colonies would also describe the court proceedings used in other English colonies:

The first reported murder in the American colonies occurred in 1630. John Billington, one of the original band of 102 Pilgrims to sail on the Mayflower, waylaid a neighbor and killed the man by shooting him with his blunderbuss. As the colonies had no written criminal laws, Billington was charged with the English common-law crime of murder and tried using the English common-law rules of evidence and criminal procedure. After a prompt trial and conviction, Billington was sentenced to death and hanged.

Rules of evidence are an important part of all criminal justice systems, just as rules are important in baseball, football, and basketball games. In a democracy, rules of evidence are important not only to safeguard the rights of accused persons in a fair trial but also to ensure the interests of the public in the proper functioning of the criminal justice system. Some rules of evidence are highly controversial and cause arguments over what would best serve the overall needs of society.

2.1.6 Basic Knowledge of Organization Management

Organization Management is work process related to human using, money or budget, material or equipment include time control, and method, too. Variety of management theories had suggested in relation between other factors of management such as Luther Gulick whose original theory is POSDCORB which abbreviated from planning, organizing, staffing, directing, coordinating, reporting, and budgeting. In 1937, social scientists Luther Gulick and L.Urwick (Papper on the Science of Administration) described seven activities and duties.

From the concept above of organization management, any organization is to aim clearly as followed:

Police institute has administrative process by four important M's consists of money, management, man, and material.

1. Money is referred to financial standard for each activity such as project, department, part, data receives from budget for expend each period, aimed planning data and future prediction.

2. Management divides work in the organization as parts by combining high relation teamwork together include defining the responsibility of work and work-team consist of relation between works or other agencies. Character of relation is authorization for suitable various works in order called command sides. From highest to lowest levels of the organization, however, authorized sharing of general duties get influence directly from administration whether authorized sharing is practiced or not.

3. Human management, organization without human is like body without spirit. Human managing is considered to work with appropriate position to their skills and prefer. It causes governmental police use ability as much as they can do for making one organization successful regarding to plan. To choose enough personnel both quality and quantity. However, successful human management is relied on clear identification of individual advantages. Every work and position is paid equally to the functions. Besides these, there is human management process till taking care personnel during and after work in the organization. Hence, executive has to be aware of various instructions such as training course for personnel, evaluation and work practice of the personnel.

4. Material Control in practice refers to factors of material management, material import which related to the price everything, so there is development of control, likely material control will focus on the price when feel like to buy something and control. Planning of material control means that to buy proper things with process of work demand. Punctual control is price control as lack of goods. It can help to reduce the difficulties of material keeping including quality control, quality examination and quality insurance.

5. Four Ms above could be concluded that money management, management of organization, man management and material control are keys of hearts in organization development, specifically Royal Thai Police, Cambodian National Police and system development of work police efficiently in work practice include to resources of organization in order to improve co-ordination participation between departments to other departments. Here is very vital to study the strengths in Thailand to correct or develop in Cambodia because not long, AEC will be combined together for increasing co-operation among ASEAN member countries.

2.1.7 Concept of Police Affair System

Concepts, structural correction and authorization of Royal Thai Police have since the past until to the present continuously. Work process had passed many times, and the latest was in 2004 had the structure, function, and management system enacted the Code in 2004. The principle of this Code is power limitation the function of Royal Thai Police certainty. Defining of the policy committee at Royal Thai Police could define the process and step in power contribution between Royal Thai Police with Provincial police and local government. To make the public joins with police work, ranking is made for government division, to define inquiry parts as specialists and affect to be appointed. Power contribution is to manage individually from central to practice agencies, command levels. Thus, it is appropriate to the public needs and government police, but the reality and real situation found that described principle above was only done some parts of all. Political intervening is still the problem both in Thailand and Cambodia. Power contribution to provincial police or local government is not done fairly. Freedom and rights violation of the public from police who did not

practice via principles of the law still exists continuously in Thai and Cambodian society. The public has not participated to get chance with police, yet influence persons and financial people only who get that chance. Examined strategies from the public are also not efficient. Government police in the regions are still lack of financial support and encouragement in function practice.

From description above, limitation character reflection on the public service in justice enhancing and peace order in society responds to the public hope. So, Royal Thai Police had defined strategic policy to reform the organization stronger and more acceptable globally. When strategic policy is done, Royal Thai Police should set strategic plan to reform the Royal Thai Police like management system structure, qualification and efficiency of forces, and knowledge and appropriate to technology such as inquiry work, forensics, prevention and suppression the riot, border patrol, intelligence, criminal suppression, transnational crime, traffic patrol, community policing, global police and so on. Hence, it is also good chance that I myself study in Thailand to correct the lack in Cambodia or bring advantages from Cambodia to use here.

2.1.8 Concept of Evident Collection

Evident collection in inquiry levels is direct process of inquiry officials that evident collection is not only to arrest the offenders and examine the offense, but also evidence is examined to find purity of the suspect. Thus, definition and criminal evidence, evident collection including to listening from witness to show in details as following:

2.1.8.1 Definition and Criminal Evidence

Criminal evidence refers to something could be examined and supported to find the truth in which litigant had referenced in case process. Each litigant is necessary to bring the evidence to confirm that there is purity or not. Inquiry is evident collection in patterns of investigative expression. Hence, expressive evidence is collected efficiently and effectively (Sonthaya Ratharos 2008, P 23-24).

Criminal evidence consists of

(1) Eyewitness refers to speeches of witness who comes to express the truth in front of police or court concludes to the gestures of deaf people that could replace the meanings of speech.

(2) Documentary evidence refers to any text commutes to personnel or court that could read and check from the books, written notice, and/or any marked image. Marked images can replace the written notice.

(3) Material evidence refers to anything that litigant bring to confirm as evidence for staffs or court to see character of those things in order to protect themselves.

(4) Specialized expert witness refers to, however, they are professional or not whose ideas could help in case process.

2.1.8.2 Évident Collection

Evident collection is function of inquiry officials or police. Evident consideration which gets from investigation is function of prosecutor. Whereas justice court, judge will weigh the evidence of litigant where gets from investigation. Of course, evident collection is extremely difficult that is the function of inquiry officials or related personnel in investigation. Investigation is referred to pursuit the truth and evidence that administrative officers or police had practiced as duties. To keep the peace and order for the public and to be aware in details of faults, so authoritative to investigate is administrative officers or police. For investigation refers to evident collection and other various processes through the provisions of this Code that inquiry officials have done concerning with the pursuit accused in order to find the truth and penalize the offenders. Laws provide the power duties for inquiry officials, and duties of investigation, inquiry officials are doers as evident collection consists of witness, material evidence, and documentary evidence.

Although inquiry and investigative processes have different objectives and methods, but must work together which investigation has both processes before committing the crime to keep the peace and orders. It is proactive measurement for reducing the circle of criminal cases, and the process after criminal offense is reactive measurement in order to catch the truth, evidence, and know in details of offense which is accused of. It is brought to help in investigation that

investigative officers are authority through the law of fact collection and received evidence for examining the offense and penalize the offenders.

Evident collection of inquiry officials is done by using methods or through general process is investigation (Handouts in presentation of Pol.Lt.Gen Jakthip Konchorn N Ayuthaya extracted from Sonthaya Ratharos 2008, p25-26)

(1) Witness evidence is recoded the terms of person. Inquiry official participates in collection such as the testimony of the accused, suspect, and witness and so on.

(2) Documentary evidence is various documents that useful for investigation such as medical notice of the wound, and notice the central examination of specialists combine into the records. If something could not be noticed for investigation, should take a picture for notices.

(3) Material evidence is the things are not examined for looking for the wrong-doing or find the truth to take notice into the records, have to make the lists and keep in the records such as knife, wood, and gun and so forth.

(4) Process section is necessary for inquiry official to be evidence through the provisions of the Criminal Procedure Code such as issuance of witness subpoenas, arrest the offender, search, search the injured person, search the suspect, search on the belongings, search at crime scene, taking pictures, brief mapping, drawing, finger print, and foot print and so on. These are called evident collective investigation like issuance of witness summons to record the terms, issuance the summons to send documentary evidence with the criminal investigative records, otherwise ask for search warrant to see or seize material evidence or central things for supporting the cases and so on.

1) Thailand's Provision of The Criminal Procedure Code

To make the evident collection of inquiry officials efficient and effective, the first factor is carefulness of inquiry official in evident collection. Next factor is witness that has in the investigative records must consist of three elements are ability of witness bringing to testify in front of court. Three elements described must be lawful that is considered as investigative base. Court will refuse request if the evidence is not reliable to the principles of the law or could be concluded

that it has to follow the Provisions of the Criminal Procedure Code, Article 226 “Material evidence, documentary evidence, or witness (Specialists) are examined to show that defendant is right or wrong. All of these could be refereed as the evidence, but must be the evidence that did not get from motivation, contract, force, cheat, or other unreliable evidences and investigation is lawful through this provision or various Codes by evident investigation”.

For criminal evident collection is main duty of inquiry officials who will gather the evidence correctly to the Provision of the Criminal Procedure Code as following:

(1) Evident collection must be lawful and done by inquiry officials and inquiry official shall have limitation of powers to evident collective investigation of any case. Any evident collection does not follow the above Code, shall be illegal and considered that inquiry officials had not investigated.

(2) Evident collection is the key condition of prosecutors filing the complaint. If there is no investigation from inquiry officials, the case could not be filed the criminal complaint. Evident collection is vital heart of criminal proceedings, so evident collective investigation must be done by purity and justice that appropriated with the Code and efficient in offender arresting in order to control the crime in criminal justice process.

(3) Evident collection is providing the power to inquiry officials on duty operations through the Provision of the law which impacts to individual freedoms such as power on suspect search, search something as perpetration and arrest and so on.

2) The Provision of the Criminal Procedure Codes in Investigation

(1) Article 51, assignment of Investigating Judge by the Court President. When an investigating judge may not perform his or her duty because of leave, illness or other reasons, another investigating judge of the same court shall be temporarily assigned by the court president to assume the investigation. If there is no investigating judge at the court, the court president may temporarily assign any judge

of the court to do the investigation. The court president shall render an assignment order which cannot be appealed.

In addition to this, the provisions of Article 26 (Allocation of Case Files) of the Civil Procedure Code shall apply.

(2) Article 52, allocation of Case Files by the Court President. If there are several investigating judges in one court, the case files shall be allocated by the court president.

(3) Article 53, revocation of Case File from the Investigating Judge. The revocation of the case file from one investigating judge to another investigating judge may be requested through the court president for the sake of good administration of justice. This request may be made by an application with reasons from the prosecutor either through his/her own initiative or complaint from the parties.

The reasons for revocation of the case file from the investigating judge shall be based on the provisions of Article 556 (Causes of Challenge of Trial Judges) of this Code.

(4) Article 54, mandatory Abstention. The investigating judge shall not participate in the trial of a criminal offense that he or she conducted the investigation or otherwise, the trial shall be nullified.

The investigating judges shall exercise the powers as stipulated in this Code.

2.1.9 The Criminal Justice System in Cambodia

In addition to a new constitution, 2007 saw the passage of the Law on Criminal Procedure, which defines the roles and functions of the police, courts, and prisons. Agencies in the Cambodian CJS include the Ministry of Interior (MoI), the National Police Department, the Gendarmerie Militaire and the Department of Prisons. The Ministry of Justice (MoJ) is responsible for the court system, and the Supreme Council of Magistracy for the management of judges and prosecutors. Some international donors such as the Australian government (AusAID) have focussed their aid on rebuilding a legitimate Cambodian CJS with long term programs such as the Cambodian Criminal Justice Assistance Project (CCJAP). However, in spite of ongoing assistance many Cambodian people continue to regard the current CJS has

having little legitimacy, because in the three branches of the system (police, judiciary, and corrections) regime capture (lack of independence) and corruption is endemic.

2.1.9.1 Role of police

The Cambodian Police is comprised of the Gendarmerie and the Cambodian National Police (CNP). The Gendarmerie is primarily a military police force and does not have the rural policing function that it generally plays in France and francophone countries. However, in their 2007 report, CCJAP (AusAID, 2007) noted the overlapping of functions between the CNP and the Gendarmerie: the latter has become increasingly visible deploying to district level in rural areas as well as in towns and cities, performing 'national security' roles. The new Criminal Procedure Law provides the Gendarmerie with the same powers of arrest held by the Judicial Police (AusAID, 2007) although such powers have long been exercised by them under the general provision for arrest in the UNTAC penal code.

The structure of the Cambodian National Police includes a number of central departments such as Traffic, Means, Training, Scientific and Technical, Human Trafficking and Child Protection, Public Order Police, Border Police, Security Police, and Judicial Police. In all Provinces the CNP structure is replicated at the various administrative strata down to the commune level (Police Post).

However, Provincial Commissioners must comply with the national policies and procedures laid down by the MoI, which is responsible for salaries and operating expenses, but take direction from the Deputy Governor (who, in theory but rarely in practice, is responsible for infrastructure and other resources) about provincial policing priorities. The role of the Judicial Police and its Central Department of Criminal Police is similar to the role performed by policing agencies in many other countries (i.e., mediation, complaint handling, investigation, and arrests). One of the functions of the Scientific and Technical Office, under the control of the Judicial Police, is to record and classify reported crimes, as well as offenders and fingerprints. According to the law, Judicial Police can also act as prosecutors and are often appointed to conduct investigations, but in this role they have limited powers of arrest and must seek authority from a prosecutor. As in most inquisitorial systems, the investigating judge appointed to the case can conduct further inquiries.

However, CCJAP (AusAID, 2007) points out that poor training of the police force and the judiciary often prevents the proper application of and compliance with the laws of Cambodia. For instance, many police interrogations end up in confessions with little supporting evidence. As part of its regular monitoring of prison conditions in Cambodia, the Cambodian League For The Promotion And Defense of Human Rights [LICADHO] (2007) conducted interviews with prisoners in 18 prisons, and found that from 1999 to 2006 between 450 and 163 inmates had been tortured in police custody. However, it is worth noting that in 1999 reports of torture in police custody represented 13.7% of the population of the surveyed prisons but that they have steadily fallen to represent only 2.1% in 2006, 1.3% in 2007, and 0.7% in 2008.

Other problems, affecting the CNP in general and the Judicial Police in particular, reported by CCJAP (AusAID, 2007) are poor management and supervision, and lack of strategic planning and equipment. According to CCJAP (AusAID, 2007), the creation of the Offices of Human Trafficking and Child Protection under the responsibility of the Judicial Police is a positive response, but its effectiveness is impaired by a “lack of proper definition of function, staffing requirements, training requirements, and a plan for how these Offices will actually function”.

Decades of conflicts have resulted in an overstuffed National Police Department, which was used to absorb demobilized military personnel with little sense of their civilian mission and the provision of services to the community. This contributes to a widespread feeling of mistrust, reflected for instance in the very low reporting rates of criminal victimization to the police (Broadhurst & Bouhours, 2009). Given the level of corruption in the police (Calavan et al, 2004) and in most other institutions, there is also cynicism about impartiality and fair treatment by such agencies. For instance, it is not rare for the judicial police to seek between 20-50% of the cost of a stolen motorbike up front before they begin an investigation (AusAID, 2007). While “street level” police corruption of this kind has generally decreased between 2000 and 2007, in many locations public cynicism about police corruption has grown despite reductions in its incidence (Broadhurst & Bouhours, 2009).

It is difficult to obtain reliable information about the number of CNP in Cambodia. CCJAP (AusAID, 2001) estimated more than 65,000 police in 1996 and 64,000 in 2001. There was a national plan to reduce the 1996 staffing by 24,000 in five years,

but by 2000 the numbers appear to have reduced by only 11,630. In 2001, the Judicial Police had between 8,000 and 9,000 officers, but only 800 were female. More recent estimations (2007) put the CNP number at 70,000. Yet, a report by the National Police Commissioner (January 2009) indicated that the total number of the national law enforcement officers as of December 2008 was 55,277 (2,325 females), of which 41,015 (1,428 females) were based in 24 municipal/provincial police commissariats (NPC, 2009).

2.1.9.2 Courts and procedure

There are 22 courts in Cambodia, one in each province and one in each of the two municipalities (Phnom Penh and Sihanoukville). There is also one Appeal Court and one Supreme Court both located in Phnom Penh. CCJAP (AusAID, 2001) reported that on January 1999, a total of 89 judges, 47 prosecutors, 368 court clerks, and 233 other officials were attached to these courts. The most recent statistics from the Council of Justice Ministry (CJM) shows that as of May 2006, there were 167 judges (22 females) and 72 prosecutors (one female) (CJM, 2006)

.Before 2001, little training was available for the magistracy and court clerks, apart from the legacy of 'socialist justice' uncoordinated and inadequate programs provided by some NGOs were provided. Training courses for judges and prosecutors before or after appointment were virtually non-existent. While some judges had received university education very few were legally qualified, including the majority of provincial courts presidents and prosecutors. Even the President of the Appeal Court was not a qualified lawyer; the only exception was the President of the Supreme Court, the highest court in Cambodia. There have also been changes in a number of Supreme Court judges, increases in the pay of judges, improved training and further oversight of judges by the Council of Magistrates.

2.1.9.3 Juvenile Justice

There are no separate courts for juveniles in the Cambodian CJS and juvenile cases are processed and eventually heard in provincial courts in the same way as adults. The law, however, requires that penalties for juveniles be half of those for adults and prohibits the detention of minors less than 13 years old, two rules which according to LICADHO (2007) the judges normally apply. Despite the absence

of juvenile courts and separate prisons, no specialist training in relation to the treatment of juveniles as victims, witnesses or offenders, is provided to officials in the court system. As there are no alternatives to imprisonment for minors, in 2008 the latter represented 6.3% of the prison population, a rate that has steadily increased since 1999 (3.3%). The same prison rules (e.g., recreation time) apply for adults and juveniles and no schooling is provided.

2.1.9.4 Rights of the accused

Although the principle of presumption of innocence is enshrined in the Cambodian constitution, the way the inquisitorial system is practiced in Cambodia mostly insures that a person is presumed guilty by the time he/she appears before the court. Guilt or innocence tends to be determined during a pre-trial stage, which takes place before prosecutors whose enquiries are not open to the public. The Law on Criminal Procedure does specify a number of basic rights for the accused, such as the right to be informed of the imputed criminal act, the right to answer or not to answer the investigating judge without the assistance of a lawyer or defender chosen by the accused, the right to communicate privately with defenders, and the right to appeal a court decision. However, there is no provision for the right to remain silent and to have an attorney present during police interrogations. There is no trial by jury in Cambodia, or a right to plead guilty to a lesser offence.

As for a speedy trial, it is not a right provided to the accused but a provision of the Law on Criminal Procedure allowing the prosecutor to send an accused direct to trial (i.e., without relying on the work of the investigating judge) when the offence is a misdemeanor incurring a penalty of no more than a year imprisonment, or a misdemeanor incurring more than a year imprisonment in the case of “flagrant delicto” (i.e., when the accused was caught red-handed in the act). Whilst article 21 (1) of the UNTAC code stipulates that children under the age of 13 must not be placed in detention, there is no age of criminal responsibility in Cambodia. Because the criminal justice system and the legal profession were decimated during the Khmer Rouge dictatorship there is a scarcity of trained and competent lawyers in Cambodia. In theory, and according to the Law on Criminal Procedure, an accused person has the right to be assisted by a lawyer or a “defender” as soon as the prosecutor lays charges and during interrogations conducted by him/her, the investigating judge, up to and

including the trial. Article 76 of the Law on Criminal Procedure stipulates that the automatic appointment of a lawyer shall be made by the presiding judge (other provisions mention the investigating judge rather than the presiding judge) in the following cases:

The victim is a minor without defense.

The accused person is a minor without defense.

The accused person is mute, deaf, blind, or has a mental disorder.

The accused person is not able to afford a defender.

Funded by US donors, the Cambodian Defenders Project (CDP) was set up in the mid 1990s to train a group of defenders whose role was to represent those accused of crimes in the court. They formed themselves into an organization that now provides legal aid from offices in Phnom Penh and a number of provincial towns. In 2001 it comprised 30 lawyers, 30 supporting staff and 17 law interns. According to CCJAP (AusAID, 2001), defenders were sometimes regarded with suspicion by judges, prosecutors, and court clerks and even forbidden to appear; however, as trained lawyers they raised the standard of court procedures. Yet, CCJAP (AusAID, 2001) reported that despite being paid decent salaries, “some of them have succumbed to the pervading corruption found in the court system”. Legal Aid of Cambodia (LAC) was set up shortly after the establishment of the CDP as the latter split into two distinct groups. Funded by several European assistance projects, in 2001

LAC had offices in Phnom Penh and nine provinces and was staffed by 18 lawyers and 18 legal assistants.

In addition to the CDP and LAC, in 1995 a statute established the Cambodian Bar Association and stipulated that only members of the association could practice law in Cambodia. The association, which in 2000 had 216 members, includes lawyers in private practice and those in the legal aid/defender bodies. Although generally not offering legal services, a number of NGOs specialized in justice issues (e.g., Cambodian League For The Promotion And Defense of Human Rights [aka

LICADHO], Cambodian Human Rights And Development Association [aka ADHOC], Cambodian Law and Democracy Project, Cambodian Legal Resources Development Center, Cambodian Women's Crisis Center), provide training and advice to CJS personnel and advocate on behalf of the rights of victims and accused persons.

2.1.9.5 Prosecution and case investigation

Because of the legacy of the French protectorate, particularly in relation to the inquisitorial nature of the criminal justice procedure, there are a number of similarities between the prosecution of criminal cases in France and Cambodia. A notable similarity is the extensive role of the “*judge's instruction*” (investigating judge). Two distinct, yet closely collaborating, groups therefore conduct the prosecution and investigation of a criminal case: prosecutors and investigating judges. Each province has a public prosecutor department whose role is to supervise the case brought by the judicial police. In principle, the usual route for the prosecution, investigation, and adjudication of a criminal case starts with the judiciary police. The latter receive denunciations or complaints relating to crimes, misdemeanors and minor offences, gather evidence, may decide on the detention of suspects for a maximum of 48 hours, and then make reports to the prosecutor of the competent jurisdiction. Then the duty of the prosecutor is to immediately open a judicial inquiry, that is, to make a charge called “introductory requisition”, which indicates the offence in accordance with the law, and, unless it is a flagrant delicto offence (in that case prosecutors can proceed with the investigation by themselves), send it to the investigating judge. According to Article 38 of the Law on Criminal Procedure, there is at least one judge responsible for investigating criminal cases in each provincial court. Investigating judges are given extensive powers in order to conduct their inquiry. They may reach different conclusions as to the charge laid by the prosecutor and must therefore maintain a close communication with the latter. When both the investigating judge and the prosecutor are satisfied that there is a case to answer, the prosecutor refers the case to the competent provincial or municipal “criminal tribunal”. In principle there is an absolute incompatibility of office between a trial judge and a representative of the prosecution department or the investigating judge.

2.1.9.6 Alternatives and Outcomes of Prosecution

Due to customary traditions and a profound distrust of the corrupt and costly official judicial system, most victims do not report crimes to the police but to village and communes chiefs. However, village and commune chiefs only play an informal role in conflict mediation geared towards reparation and compensation rather than a formal prosecuting or investigating function.

Apart from this informal system, which appears to process and “solve” many cases, there are no formal alternatives to going to trial, and the official system does not include provisions such as plea-bargaining or any kind of medical or other types of supervised or unsupervised treatment.

The majority of criminal cases, apart from the most serious ones, are therefore “resolved” through the informal system. Serious cases go to trial, in principle following the procedure mentioned above (in practice, due to lack of proper training and corruption, many aspects of this procedure are not observed). There is no trial by jury; after hearing the prosecution and the defense, the presiding judge (or trial judge) decides on guilt or innocence and, if the accused is judged guilty, decides the penalty to be imposed.

Incarceration before or awaiting trial is allowed and regulated by the UNTAC Criminal Code. Article 14 (4) stipulates that time held in detention without trial should be no more than four months, which can be extended to 6 months by a judge with appropriate reasons given. Article 21 (1) specifies that accused persons must be tried no later than 6 months after arrest, that children under the age of 13 must not be placed in detention, and for children between the ages of 13 and 18 no more than one month, which can be doubled if the child is charged with felony. However,

CCJAP (AusAID, 2001) reported that very often the courts do not comply with these rules and that many accused persons were kept in detention before trial for longer periods than required by law.

Although improvements in judicial training have occurred, examples of poor procedure and oversight of police continue. Despite prohibitions under the constitution and procedural law, a widespread problem is the acceptance of

dubiously obtained confessions extracted from suspects under duress by police. The Constitution prohibits the extraction of involuntary confession in Article 38 (1993) and Article 321 ("The Law on the Criminal Procedure," 2007). A study that monitored criminal cases between April-June 2007 showed that 124 of 426 defendants complained that they had been coerced into a confession: 100 of the 124 were convicted. Police officers also misused the permitted 48 hours detention period in police custody to extort confessions. In most cases, defendants alleged that they were beaten or threatened or promised release in exchange for a confession. During the hearing, judges seldom fully considered defendants' allegations of coercion or the legality of the confession (The Center for Social Development, 2007, p. 7).

2.1.9.7 Punishment

Officially, degrading treatments such as corporal and public punishment are not allowed in Cambodia. Fines and prison are the most common types of punishments imposed by the courts.

According to CCJAP (AusAID, 2007), there is a lack of alternatives to imprisonment. Noncustodial sentences are limited to fines, suspended sentences, and conditional release. There are no legal provisions for community work orders, supervised probation and parole systems (APCCA, 2007). The courts can also impose reparations and compensation, but their greatest use probably occurs in the informal system.

2.1.9.8 Punishment for serious crime

Murder

Capital punishment has been abolished in Cambodia since 1989 and no legal executions have taken place since then. Nevertheless, the law imposes heavy penalties of imprisonment for serious crime.

Limited details about the length of prison sentences are provided by the MoI. Article 31 of the Criminal Code stipulates imprisonment for a term of 10 to 20 years for murder.

Rape

Article 33 specifies a prison sentence of 5 to 10 years, which cannot be suspended (but can, under article 68, be reduced by half for offenders under 18). However, according to LICADHO (O'Connell, 2001, p.49) judges often apply the

law “incorrectly and inconsistently, giving convicted rapists suspended sentences when the law prohibits it”.

Theft, burglary, and robbery

The Criminal Code classifies burglary as robbery. Article 34 stipulates a prison term of six months to five years for theft depending on the circumstances; for robbery a prison term of three to ten years that varies according to the amount of force or weapon used.

Drug trafficking

According to Article 98, personal consumption, and production for the unique purpose of personal consumption, of any of the prohibited drugs is punished by a fine ranging from US\$ 25 to US\$ 250.

Article 36 stipulates that the offence of selling or providing any of these drugs to a person for his/her personal consumption “shall be punished to imprisonment from one month to one year and with a fine from 1,000,000 (about US\$ 250) to 5,000,000 Riels (about US\$ 1,250) or one of the two penalties.” Article 86 provides a more severe penalty of one year to five years in prison and with a fine of about US\$ 2,470 if the drugs are made available to minors. Any other drug offences for the eventual intentional purpose of trafficking incur a penalty from five to twenty years imprisonment with fines up to 50,000,000 Riels (about US\$ 12,500). Long prison terms and heavy fines are therefore prescribed by the criminal code and it seems that these long prison sentences are indeed often inflicted. Travel advisories of various foreign governments warn travelers of the severe prison sentences for drug trafficking.

2.1.10 Forensic Science in Cambodia

A history of forensic science in Cambodia launched since Social Republic of Cambodia until Lon Nol regime (1970-1975), it disappeared during Khmer Rouge era (1975-1979) whole national structure was lost because of Pol Pot’s destruction. So in 1979, Cambodia got freedom, and forensic science was started up again called “Criminal Technical scientific Site” officially announced that name in 1980. It was one part of investigative works of criminal police in Cambodia. However, it develops

from that time until present day. Whereas development line, later in 1986 it was changed a name into an Office of Criminal Technical Science, but in 1994 after first national election, and Cambodia was necessary to get national coalition, it was created as a Department of Scientific and Technical Police. In present day, this department is named as Department of Scientific Technical Police.

For structure of Department of Scientific Technical Police through Procedure Code, Article 109 dated on 19th August, 2015 in which new law to limit about the duty and function of Department of Scientific Technical Police. Department of Scientific Technical Police is under Department of Central Justice Police, and Department of Central Justice Police is under General Commissariat of National Police, and General Commissariat of National Police is under Ministry of Interior. Just for clarification, there are six expert offices in Department Scientific Technical Police. One of six offices is an administrative office, and other 5 offices are expert ones. The following figure is a structural perspective of the Department of Scientific Technical Police, Ministry of Interior, Cambodia.

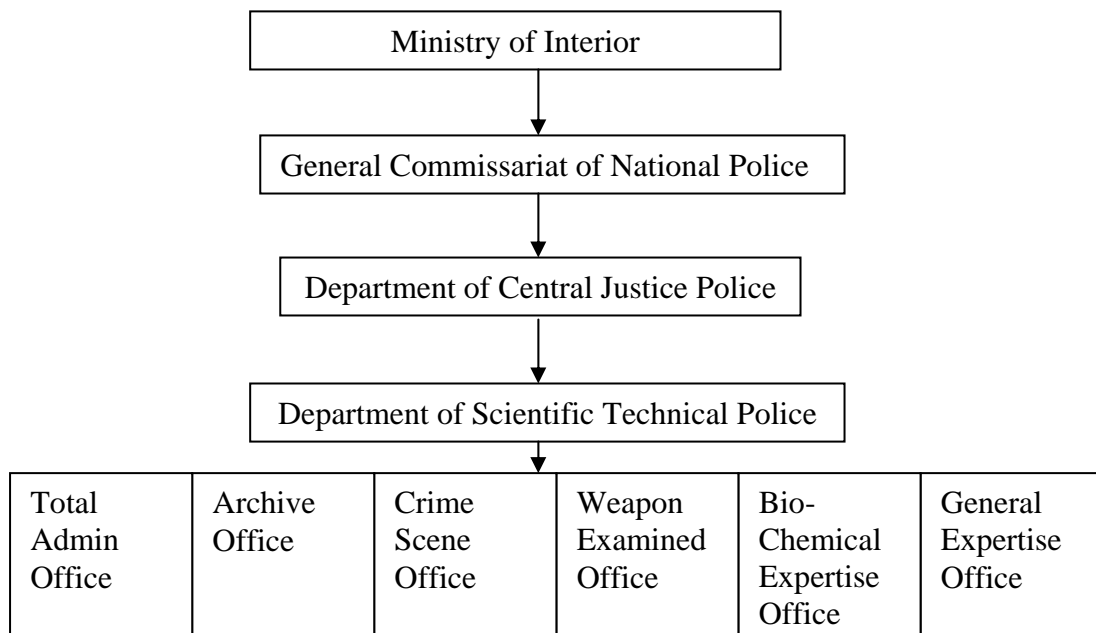


Figure 2.2 Hierarchy of Structural Perspectives

Hierarchy of Structural Perspectives in Department of Scientific Technical Police

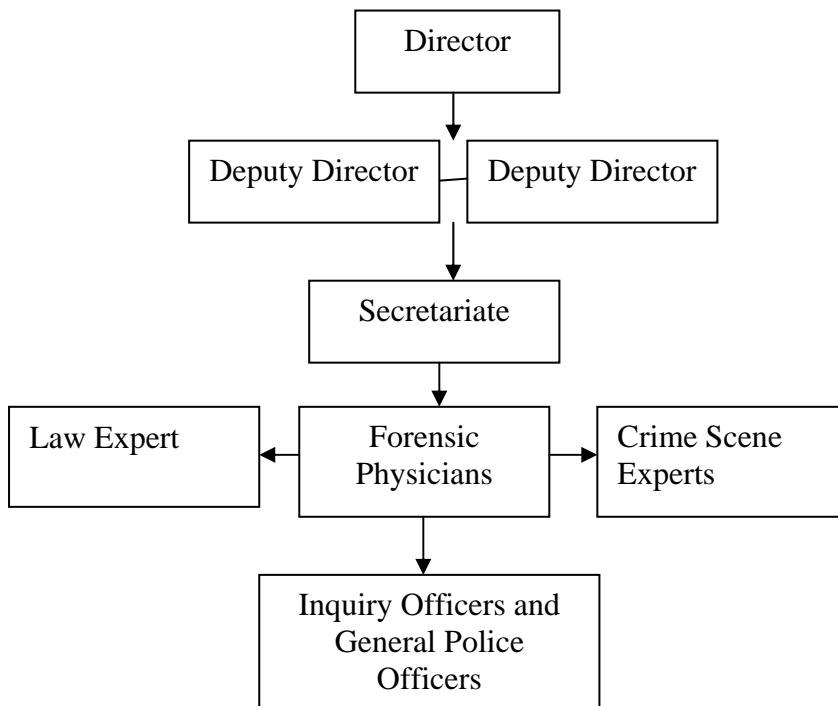


Figure 2.2 Hierarchy of Structural Perspectives (cont.)

Another point is a case report published in 2006 presents the findings of a study of 85 crania from the *stupa* at Choeung Ek. This project was supported by the Joint POW/MIA Accounting Command (JPAC) and the Kingdom of Cambodia, and the report describes a pattern of systematic execution through blows on a specific area on the back of victims' heads that is sensitive due to its proximity to the cerebellum, brainstem and spinal cord.³⁴ In addition to *per imortem* damage, more recent postmortem damage of the crania, such as loss of teeth, was noted. The authors conclude that more killing techniques, such as the use of plastic bags for suffocation, might be detected through carefully conducted forensic examinations of mass graves and human remains.³⁵ Further research into methods of killing would yield valuable information for legal actions related to these crimes. Interestingly, none of the interviewees mentioned this study, though they regularly referred to DC-Cam studies and early exhumations by the Vietnamese.

In 2003, DC-Cam launched what it called a forensic project, comprising an exhibition of crania and a site selection study in preparation for a full-scale

multidisciplinary forensic exhumation. The exhibition of crania from Choeung Ek was designed to demonstrate the potential of human remains to serve as valuable evidence of Khmer Rouge crimes and to yield medico-legal information. Forensic experts took samples from the crania that had been excavated in the 1980s and preserved in *stupas* and examined the crania to determine the age, sex, trauma and cause of death of each victim. The selected crania show blunt-force trauma, sharp force trauma and gunshot wounds. Explanations of the findings were intended to educate Cambodians about the value of forensic science in terms of recording evidence and proving elements of crimes. DC-Cam staff says they refrained from actually displaying the examined crania in public because of a 'controversy in Cambodian society over whether this is appropriate, as well as then-King (Melanie Klinkner: *Forensic Science for Cambodian Justice*, P 234) Norodom Sihanouk's dislike of such displays. The crania now are housed in a separate room at Tuol Sleng Museum. DC-Cam employed forensic experts to conduct a site selection survey in order to identify appropriate sites at which to conduct forensic exhumations. To make the planned study authoritative, the forensic scientists insisted on finding easily accessible, undisturbed graves – a task that proved difficult as witnesses' memories had faded and most graves had been disturbed. After a physical inspection of 53 sites led by Canadian pathologist Michael Pollanen, the team concluded that only six sites were undisturbed and suitable for full-scale forensic exhumations.

The sites have been kept confidential by the centre to protect them from grave robbers. DC-Cam aimed to use the evidence gathered through forensic science to complement the evidence it had already obtained through the social science methods of gathering witness statements and estimating the number of dead. Furthermore, the project was designed to test the accuracy of witness statements gathered through the mapping project in order to confirm that the sites contain victims of Khmer Rouge atrocities and to establish how the victims died. However, full-scale exhumations were never started. The decision by DC-Cam to put exhumations on hold was, apart from funding issues, justifiable given the imminence of the tribunal. The quest to document and investigate human rights abuses can, in some circumstances, hinder criminal investigations.³⁸ DC-Cam was careful not to engage in investigations

that the ECCC potentially wanted to undertake in order to avoid damaging evidence or rendering it inadmissible in court.

2.2 Investigation

In the present time, justice enhancing of Royal Thai Police focuses basically on investigation, specifically field of criminal investigation that is the first step of beginning in justice process both in Thailand and Cambodia

Principles of the criminal procedure Code in 2004, Article 2 (10) enacted that “investigation refers to search for the truth and evidence which administrative officials or police will practice on the duty to keep peace and order for the public and to be aware of perpetration”.

Whereas investigation was enacted in Article 2 (10) that “investigation” its meanings to evident collection, various processes through the Code (The Criminal Procedure Code) what inquiry officials practiced responds to the perpetration accused in order to find the truth and penalize the offenders.

Through The Criminal Procedure Code was described above to show that investigation and inquiry have quite similar meanings. Differences that easy to understand are investigation is basic starting to find the truth of any case, inquiry is done after investigation to collection enough evidence and file the complaint to the court. However, in conclusion could include that investigation and enquiry are focused on searching the truth and collecting the other criminal evidence. To accomplish the aims, consists of 3 (three) factors as following:

- 1) To know the offenders
- 2) To be aware where the offenders live and
- 3) To search various evidence

2.2.1 Factors of Investigation

For effective investigation, detectives need to follow three factors. When detectives use them correctly, investigation may be completed. To complete the mission successfully, must rely on the existing factors such as:

1) The information what the inquiry officials collect from the other people that normally comes up with two sorts as following:

- The first sort is the information or the truth where get from regular sources such as good citizens, history evidence of company, and planning file criminal conspiracy and so on.

- The second sort is the information or the truth where the inquiry officials collect from planted resources such as emissary, bar employees, taxi drivers, owners and employees of general services, acquitted people, and close persons and so forth.

2) Interrogation refers to witness interview and suspect interview skillfully because it is not normal interrogation since witness or suspect does not normally say the truth. Specifically, suspect always thinks that inquiry officials are not ordinary interrogators. To succeed from interrogation, relies on the expert and flexibility of inquiry officials ask for the truth or temporary information through number one as mentioned above. Inquiry officials need to be clever to interpret the suspect or witness's talk. On the other hand, when inquiry officials interrogate, they have to use critical and psychological understanding and finding the faults. Interrogation is gradually asked because some witnesses request to meet their families for the last time before they tell the truth. Some people are strongly interrogated; otherwise, they do not have ways to tell inquiry officials.

In general, suspect never says the truth, so it is the function of inquiry officials trying to interrogate for pushing the suspect speaks out. If the suspect could not answer anything, he/she is considered as the offenders certainly. There are a lot of cases that the inquiry officials get benefits from interrogation the suspects who agreed to say the truth, basically the suspects squeak.

Interrogation is a kind of brain using and wisdom between interrogator and a person was interrogated. Therefore, interrogator shall be flexible and opportunistic immediately when the suspects have the gap or show the weakness. For example, when interrogate the important words, the person's face was interrogated becomes

pale, tear like dry throat. Inquiry officials must push to interrogate the truth immediately. Do not make the suspects conscious!

3) Instrumentation for helping in investigation conclude to instrument using and forensics method are the efficient instruments for helping in investigation. In developed countries, they have enough efficient instruments, but in Thailand and Cambodian do not through the development is still limited. However, Thailand is better than Cambodia surely since the economic grows very far different. Detectives should study whether what they have instruments for investigative helps who overlook this point and not try to search or trace in investigation which divided into 2 (two) as following:

- Instruments for examined helps such as gun examination, and bullet from marks of bullet shell, written examination in documents, Atomic Absorption and Neutron Activation and so on. All described can help central scientific crime detection division, office of police forensic science and also other agencies as food and drug control division by department of forensic physicians.

- Other instruments that are not examination such as finger print examination, plan of criminal conspiracy, polygraph, communicative system, vehicles, X-ray machine, metal monitors, computer and police dog and so on. The key points that inquiry officials should remind all the time when the crime causes like do not overlook evident things of those cases, could examine or use instruments for help in investigation such as sand stuck with suspect shoes, in which to examine whether it is related sand to crime scene or not.

2.2.2 Procedures of Investigation

At the beginning the aims of investigation was described already above which could be divided into 3 (three) steps such as (1) being aware of criminal or identifying the Criminal, (2) tracing and locating the Criminal as long as where he/she lives to arrest and (3) proving the Guilt for filing to the court. Although there is division already, but does not need to use all steps together all the time because the same evidence could identify the criminal. It could tell that where the criminal lives and also use the evidence in examination for the court's consideration.

(1) Identifying the Criminal

The first step of investigation is identifying the criminal. Whoever commits the crime or perpetrator? Generally we could arrest the criminal as long as we interrogate the witnesses or eyewitness from suspect confession or other environmental evidence.

(2) Tracing and Locating the Criminal

This second step of the investigation is related to tracing the criminal where she/he lives in order to arrest. For knowing where the criminal lives, we need to follow the first step whether who the criminal is. We have a lot of evidence enough to trace the criminal as following:

- Professional criminal does not commit the crime near the places that she/he lives. Thus, when he/she commits the crime already, she/he escapes to live at his/her residence except that he/she is recognized or traced.

- Not professional criminal or someone is just starting to commit the crime will think that if she/he will escape, will be suspected, so she/he stays at his/her residence without running away.

- Homicide criminal because of revenges in case he/she escapes, she/he will stay at their relatives house or close friends in order to stay beside him/her even though knowing the truth.

(3) Proving the Guilt

This step refers to the investigation to search the evidence with investigative profiling at the court examines the guilt of suspect efficiently, and the court will judge and penalize the offender. But the inquiry officials should know which evidence is examined at the court. Firstly, practitioners should understand the Criminal Procedure Code. Therefore, they could understand whether what evidence is searched for accomplishing the aims.

Through The Criminal Procedure Code, Article 227 enacted that “the court discretion to adjudicate various evidence scale, do not penalize unless there is real guilt and the defendant is the real doer”.

When there is suspicion whether the defendant commits or not, provide that question to “defendant”.

This Code shows clearly that it must investigate and search the lawful evidence to examine the case at the court jurisdiction without suspicion. That why the defendant is definitely wrong. The court will penalize the offender. If there is suspicion, the court will refuse the request. Thus, in conclusion of investigation is that investigator must detect to search the evidence completely although the suspect confesses at the inquiry level. Detectives or inquiry officials need to search and collect the evidence like that case is not confessed yet.

To make the evident collective outlines that tries to investigate and collect evidence enough, the evidence is distinguished into 4 (four) elements simultaneously as followed:

- Corpus Dilicti
- Circumstantial Evidence
- Eyewitness
- Confession

All of these kinds of evidence must be collected and investigated strictly and completely. This is the objective of the investigation.

2.2.3 Improvement of Investigative Development

2.2.3.1 Problem Situation

Both Thailand and Cambodia, inquiry officials have key functions in justice process of evident collecting and profiling the cases. Therefore, there is necessary to have knowledgeable people, ability, professionalization, and independence at proper level from invasion that there is the issue considered that should be improved and developed the knowledge and independence of inquiry officials properly.

2.2.3.2 Development Guidelines

Inquiry section has importance since it is the beginning or comparing like the started source of criminal justice process. Therefore, it should set the central investigative agency to develop governmental guidelines related to inquiry section which is specialized and standardized manner all over the country (here for the Thailand and the Cambodia) including promoting the inquiry officials to become

professional and knowledgeable in inquiry section. Inquiry officials must work independently without invasion from order and create the balance as arrested steps and inquiry steps. On the other hand, there also is the suitable compensation for duty practice.

From this review literature about investigation could be considered as the principles factors for justice enhancing, seen the importance and the problem situation may be cause conclude to development guideline in order to make them efficient.

2.3 Evident Examination and Evident Collection

2.3.1 Evident Examination

2.3.1.1 Law of evidence

The roles of the evidence provide the true benefits to investigation. Any material is brought to the court, shall think about “law of evidence” which has vital heart simultaneously two items such as materiality and admissibility.

- The regulation 1 (one) is “controlling at the crime scene”. Controlling at the crime scene is initially begun when first police officer reaches the crime scene including specialists (Medical officer scientific crime detection division, forensic police and others) examine at the crime scene to finish completely.

- The regulation 2 (two) is “lawful evident collection”. Lawful evident collection is referred to a person who collects the evidence shall be a person whom the law provides the power to and could collect material evidence the crime scene. For example, she/he is an inquiry official, an officer at central scientific crime detection division, and a police and so on.

- The regulation 3 (three) is “search for evidence and collect the evidence properly”. A crime scene examiner shall not overlook any evidence. In case examiner suspects whether that material is evidence or not, may keep it first and specify in details of that material. Location and package should be stored properly.

- The regulation 4 (four) is “chain of evident possession”. It means that evidence must be controlled by in person or other agencies since the

beginning until the court judgment without stopping controlling. If there is change of controlling like sending the central evidence to examine at the practice room, there will have to evidence to show whether where the evidence stays right away.

2.3.1.2 The Roles of Evidence to Investigation

The objective of evident examination is to provide the useful data to inquiry officials for using as clearing the cases and helping at the court. Material evidence is provided useful data in cases:

- Providing the data that has body of the crime such as athias mark, broken door mark, window mark, traces of rifling in the room and property losing to show that there is burglary case. Furthermore, in case the blood of injured person, and torn clothes weapon are also considered as the important evidence to identify that there is violent crime.

- The data in which indicates the commitment of the criminal (Modus Operandi), all criminals shall have the modus operandi (MO). MO is a particular way or method of doing something wrong, especially one that is characteristic or well-established. Material evidence shall tell about the MO. For example, the burglary case, how to enter the building, instruments, and kinds of properties were stolen all, but it is helpful for identifying the criminal. The arson case, kinds of catalysts to burn and how to light are also specified as material evidence that could help in fighting the fires. Evidence analysis is to understand about MO methods. This is used to connect with guidelines for investigating the criminal and creating conspiracy plan.

- Link a suspect to the victim. The roles of evidence for this respect generally happen to every case such as blood, hair, clothing fibers, cosmetics, and others. Injured person's things can go with criminal, and the criminal's things can stay with the injured person, too. For instance, bullet of the suspect shoots the injured person, so it will embed in the death body. Therefore, search on the suspects' clothes, should be careful the most both keeping and packing clothes.

- Link outsiders enter into the crime scene. These data can help so much in investigation. At crime scene, there is a lot of evidence that the criminal leaves at the crime scene such as fingerprint, hair, and land including weapons and

other things not only bullets, bullet casings but also tools mark. Some cases, evidence is brought the crime scene unintentionally such as color shards, glass fragments, leaf debris, tree branch, cat's hair, and carpet fibers that stuck with shoe soles. These things are useful very much for linking to the outsiders enter into the crime scene.

- Confirm or refute the testimony of witnesses. The result of material evidence analysis could be concluded that testimony of each person should believe or not. For example, vehicle check is accused of colliding and escaping. The result of examination found that the blood at the front bumper, but the car owner refuses that he/she crashes the dog. That why should bring the blood to examine at the practice to identify whether it is humans blood or dog's.

- Could identify the criminal. The best evidence that could identify the suspect is fingerprint. The fingerprint is found in the crime scene could be brought to examine and find a person who is the owner of that fingerprint. There is trustful examination and can be called as individualization.

- Limit the guidelines for investigation. Material analysis of the examination is found at the crime scene, and the result in the practice room that investigative authorities could limit the guidelines for correct investigation. For instance, in the case crashed a person and escaped, fragment examination is found in clothes of death person, and could indicate the data of car color and know the series of car, too.

2.3.1.3 Fingerprints

Tools for recovering fingerprints include brushes, powders, tape, chemicals, lift cards, a magnifying glass and Super Glue. A crime lab can use fingerprints to identify the victim or identify or rule out a suspect. There are several types of prints a CSI might find at a crime scene:

- Visible: Left by the transfer of blood, paint or another fluid or powder onto a surface that is smooth enough to hold the print; evident to the naked eye

- Molded: Left in a soft medium like soap, putty or candle wax, forming an impression

- Latent: Left by the transfer of sweat and natural oils from the fingers onto a surface that is smooth enough to hold the print; not visible to the naked eye.

A perpetrator might leave prints on porous or nonporous surfaces. Paper, unfinished wood and cardboard are porous surfaces that will hold a print, and glass, plastic and metal are non-porous surfaces. A CSI will typically look for latent prints on surfaces the perpetrator is likely to have touched. For instance, if there are signs of forced entry on the front door, the outside door knob and door surface are logical places to look for prints. Breathing on a surface or shining a very strong light on it might make a latent print temporarily visible. When you see a TV detective turn a doorknob using a handkerchief, she's probably destroying a latent print. The only way not to corrupt a latent print on a non-porous surface is to not touch it. Proper methods for recovering latent prints include:

- Powder (for non-porous surfaces): Metallic silver powder or velvet black powder.

A CSI uses whichever powder contrasts most with the color of material holding the print. He gently brushes powder onto the surface in a circular motion until a print is visible; then he starts brushing in the direction of the print ridges. He takes a photo of the print before using tape to lift it (this makes it stand up better in court). He adheres clear tape to the powdered print, draws it back in a smooth motion and then adheres it to a fingerprint card of a contrasting color to the powder.



Picture 2.1 Powders and brushes at the CBI latent-fingerprint lab Chemicals

The CSI sprays the chemical onto the surface of the material or dips the material into a chemical solution to reveal the latent print.

Cyanoacrylate (Super Glue) fuming (for porous or non-porous surfaces). The CSI pours Super Glue into a metal plate and heats it to about 120 F. He then places the plate, the heat source and the object containing the latent print in an airtight container. The fumes from the Super Glue make the latent print visible without disturbing the material it's on.



Picture 2.2 Footwear Impressions and Tool Marks

This cast is a student sample. According to Mr. Clayton, footprints found at a crime scene seldom produce such perfect specimens.

2.3.1.4 Footwear Impressions and Tool Marks

A latent fingerprint is an example of a two-dimensional impression. A footwear impression in mud or a tool mark on a window frame is an example of a three-dimensional impression. If it's not possible to submit the entire object containing the impression to the crime lab, a CSI makes a casting at the scene.

A casting kit might include multiple casting compounds (dental gypsum, Silicone rubber), snow wax (for making a cast in snow), a bowl, a spatula and cardboard boxes to hold the casts.

If a CSI finds a footwear impression in mud, she'll photograph it and then make a cast. To prepare the casting material, she combines a casting material and water in a Ziploc-type bag and kneads it for about two minutes, until the consistency is like pancake batter. She then pours the mixture into the edge of the track so that it flows into the impression without causing air bubbles. Once the material overflows the impression, she lets it set for at least 30 minutes and then

carefully lifts the cast out of the mud. Without cleaning the cast or brushing anything off it (this would destroy any trace evidence), she puts the cast into a cardboard box or paper bag for transport to the lab.

For tool mark impressions, a cast is much harder to use for comparison than it is with footwear. If it's not feasible to transport the entire item containing the tool mark, a CSI can make a silicone-rubber cast and hope for the best. There are two types of tool marks a CSI might find at a crime scene:

- Impressed: A hard object contacts a softer object without moving back and forth (for example, a hammer mark on a door frame). The tool mark is an impression of the tool's shape. It's difficult to make a definite match with an impressed tool mark.

- Striated: A hard object contacts a softer object and moves back and forth (for example, pry marks on a window frame). The tool mark is a series of parallel lines. It's easier to make a definite match with a striated tool mark.

In tool mark analysis, the lab might determine what sort of tool made the mark and whether a tool in evidence is the tool that made it. It can also compare the tool mark in evidence to another toolmark to determine if the marks were made by the same tools

2.3.1.5 Firearms

If a CSI finds any firearms, bullets or casings at the scene, she puts gloves on, picks up the gun by the barrel (not the grip) and bags everything separately for the lab. Forensic scientists can recover serial numbers and match both bullets and casings not only to the weapon they were fired from, but also to bullets and casings found at other crime scenes throughout the state (most ballistics databases are statewide). When there are bullet holes in the victim or in other objects at the scene, specialists can determine where and from what height the bullet was fired from, as well as the position of the victim when it was fired, using a laser trajectory kit. If there are bullets embedded in a wall or door frame, the CSI cuts out the portion of the wall or frame containing the bullet -- digging the bullet out can damage it and make it unsuitable for comparison.

In a CSI van, you might see hack saws, pliers, a pipe wrench, a pry bar, wire cutters, bolt cutters, shovels, sifters, a slim Jim, a pocket knife, measuring tapes, orange marker flags, a flashlight, batteries, chalk, forceps, Vise-Grips, a compass, a magnet, a metal detector, distilled water, kneeling pads, and stuffed animals for living child victims.

2.3.1.6 Documents

A CSI collects and preserves any diaries, planners, phone books or suicide notes found at a crime scene. He also delivers to the lab any signed contracts, receipts, a torn up letter in the trash or any other written, typed or photocopied evidence that might be related to the crime. A documents lab can often reconstruct a destroyed document, even one that has been burned, as well as determine if a document has been altered. Technicians analyze documents for forgery, determine handwriting matches to the victim and suspects, and identify what type of machine was used to produce the document. They can rule out a printer or photocopier found at the scene or determine compatibility or incompatibility with a machine found in a suspect's possession.

Whenever a CSI discovers a piece of evidence at the scene, she photographs it, logs it, recovers it and tags it. An evidence tag may include identification information such as time, date and exact location of recovery and who recovered the item, or it may simply reflect a serial number that corresponds to an entry in the evidence log that contains this information. The crime scene report documents the complete body of evidence recovered from the scene, including the photo log, evidence recovery log and a written report describing the crime scene investigation.

2.3.2 Evident Collection

2.3.2.1 Definition of Forensic Evidence

Generally the Criminal Procedure Code shall judge the two elements such as the law and the truth. The principles of the judgment shall have to consider for finding the truth or the fact of those cases whether how that case is!

So bring the law to judge that defendant is penalized or not released. According to evident law “the truth which the court recognizes itself, rely on

normality or nature of truth for whom normal individuals shall understand by themselves and the truth is under the knowledge of normal people. The court could recognize itself'. However, the accuse shall be examined to find the truth whether he/she has committed the crime or not.

Forensic evidence is the evidence which happens by analyzing or researching. The law considers the evidence mentioned so far is the evidence in which brought to the criminal procedure or to the court judges whether defendant is wrong or not by defining the investigative methods. If the litigant wishes to claim forensic evidence to the file, to find the truth should be done by specialists or checked, analyzed and researched. To take note the other situations or something related to that case, thus forensic evidence is legal evidence of the specialists. So far, forensic evidence is used to unravel various cases that have importance and complexity difficulty among Thailand and other countries.

In U.S.A, for those cases which use the forensic evidence to unravel such as a case of assassination of President Kennedy at the date of November 1963, a case of Oh J Simsan, wife murder and friends in 1994 and a case of no death body murder at Florida State and so on.

In England, important case at which bring forensic evidence to use in many cases like murder camouflaged David Eden Hill Farm at the village of Houghton in 1984.

In Thailand, there are also very important cases and complexity. There are many cases that use forensic evidence to help such as murder of Miss. Doris Von Hafan was a Danish young model at the date of January 24th, 1968, murder of Mrs. Yamol in 1993, murder case of Mr.Sengchai Sonsakwan in 1996, murder case of Miss.Janjira Ployngonsri was a medical student year 5 in 1998, and case that the public all over country interested the most was murder of Mrs. Physician Phatphon in 2001 in which the court ordered to execute Dr.Visuth. Although this could not find the death body, but the result of DNA examination with other environmental evidence to identify that Dr.Phanphon passed away.

In Cambodia, there is not yet successful forensic use for helping the justice system because here they still keep using witnesses for identifying

the evidence that is why the reasons witness could be forced, promoted, or threatened to answer. This is the main problem which we are facing with nowadays.

Evidence is divided into three kinds as following:

(1) Direct evidence is an eyewitness or empirical that seeing the crime directly knowing by eyes, ears, nose smell or test. Not because of hearing from somebody else!

(2) Circumstantial Evidence is the evidence that could not examine the truth directly, but could combine to be ideas or connection with situation in order to tell the truth some or all for resolving the problems of that case.

(3) Real evidence is clear, the most important and be able to use in order to confirm the faults of that case directly or bring it to connect with case such as bloodstain, semen, hair, fingerprint, cloth and various guns and so on.

In conclusion, evidence refers to something that could examine that there is crime causes. To indicate who the offender is, and could connect the offender with crime causes. Thus, evidence consists of three elements such as witness evidence, document evidence and material in the Procedure Criminal Code, Article 226 (Thai Law) “material evidence, document evidence and witness could be examined that the defendant is really wrong or pure to be evidence, but that evidence must not be accepted from promotion, contract, threat, cheat, or other unlawfulness. And allow to investigate follows the Criminal Procedure Code of Investigative Code”.

Theoretically “crime scene begins where the offender starts committing including the ground where the offender escapes and the place where evidence stays”, but in practice is very difficult to identify where the crime scene is. Crime scene is various places related to that situation such as death body place, a place that death body is removed, a place where evidence is seen, and the related ground like ground of offender finds dyer, a ground where the offender escapes, and around residence of the residence and so on.

2.4 Related Researches

Office of ABAC Poll Research, Assumption University (2004) did the research titled “Problems and Obstacles of Government Police and New General Commissioner: Target population is government police who are practitioners at police stations all over country”. The survey process from 22 to 27 July, 2004 that used field survey to collect statistic data to reflex the government police comment of other police stations all over Thailand. Data was collected by using SPSS. The objectives of this study were to survey the problems and obstacles of government police for providing the services for the public, to survey the main image of commander from government police perspectives and to survey the demand of new general commissioner. That data was helpful for consideration for making decision of the government, Royal Thai Police and various agencies to use for developing ability of government police in order to provide the services and enhance the justice for the public including crime prevention and crime suppression. That research was used survey research. Target population was government police at every police station all provinces of the country. Technique of sampling was systematic sampling to every police station. Size of sampling group was 1,120 samplings. Tools for collecting data were questionnaires. Methodology was interview on phone.

The results of survey found that general consideration was 51.4%; aged from 30 to 39 years old, 39.9% aged from 40 up and 8.7% age was under 30. Sampling of high position police was 82.3 as the 17.7 % specified government police of bachelor degree. 33.8 % was the duration of public work not exceed 10 years. 29.7 % was specified the duration of public work over 20 years, 18.3% specified 11-15 years and 18.2% specified entering the government service for 16-20 years. Sampling group of 43.1% was the department of prevention and suppression. 21.4% was specified in department of administration. 11.3% was department of communication. 10.5% was in department of inquiry and 6.9% was in investigative section as 6.8% specified in traffic section and so on.

The results of the research found that police office of 65.1% traced the news of the society every day as 34.3% traced sometimes and only 0.6 did not trace.

When asked about providing services for the public, the result found that mostly 83.8% specified about not enough instruments. Lower than that was 84.4% of not enough budgets. 78.1% specified about out of date instruments. 77.1% specified about a number of police was not enough. 69.1% specified about the people did not understand about the difficulties of police. 54.1% specified about the people thought negative to police over the truth. 41.2% specified about not ready building and stations. 33.7% specified about too much work. 33.0% specified about limited regulation of government officials as 29.8% specified about the police who did not be aware of their duties and others such as unclear responsibilities, less good commanders, and still used power to process the cases.

ABAC Poll also asked about the problems in justice enhancing for the public. The result found that 67.6% specified about out of date technologies for investigating. Lower 67.3% was not enough police. 64.8% was not enough budgets. 62.4 % was litigant did not accept the truth-different party, different confirmation. 56.5% did not receive participation from witness. 46.7% working procedure was under the law. 46.4% specified the supporters and the public did not follow law enforcement. 39.2 % specified the time limitation of working period. 35.3% specified good communication with litigant and 16.7% specified about the pressure from commander.

Besides this, the considerate problem was most of 92.3% governmental police specified that they used to expend their own property to provide the services for the public as 7.7% only who did not use to do so. Whereas expenditure their own money found that 63.3% paying on car fee, petrol, and transportation. Lower was 22.2% specified instrument fees such as stationery, and copy fee and so on. 19.5% was fine and fee instead of the public.

However, 10.2% police officers had to pay for food treatment to the commander, 7.0% police paid on suspect trace, 6.8% had to buy gun, radio communication by their own money and 9.3% specified others such as phone fee, spy employment fee to find the news of suspect.

94.9% police needed the high commander pay attention to better various welfare's, 88.2% needed to develop the instruments to get modern, 79.3% needed bonus and encouragement as following the duties, 77.2% needed fairness for interior, 73.8 % supported to develop the knowledge and ability of general police, 69.9%

needed good environment residence for them, 59.0% needed to share more power, 58.6 % needed to show good performance of their work results to the public and 58.2 % needed to decorate the work places for better condition.

ABAC Poll also asked about lawful consideration of their agencies, in which the results of survey found that 43.0% governmental police used patronage system like line, appeasement the commander, partisan and position trading as 42.8 % specified virtue such as knowledge, capacity and senior system, and 14.2 % specified using two systems together.

Concerned problem was 41.4% governmental police was feeling embarrassed of duties; however 58.6% was not embarrassed. And questioned to the advantages of general commander of Royal Police, the result of survey found that 93.9 % demanded the general honest commander and equal 93.9% needed the general commander takes care the all interiors. 92.0% specified had big visions, 91.0% specified to dare to think, dare to do, dare to make decision, 87.4% specified that had to hold the fair and central system, 82.2% specified the public benefits more than personal benefits, 79.4% specified the concepts of modern police development, 78.1 % specified, should understand the people under command and others had ability to resolve the important problems of the country efficiently, had good background and model for the public perspectives, good performance for the public, high education, and not join the political party and so on.

Chanida Lertsithikul (2006) did the research about “Proof of Criminal Case by Scientific Evidence: Analysis of Criminal Procedure Amendment (Criminal Evidence) Bill”. Scientific evidence has very important roles for examining the suspect offense or purity for criminal procedure. The evidence in the crime scene such as hair, nail, blood, semen, and so on, in which we can bring them to examine in order to find who offender is.

Scientific evidence application for criminal procedure, there are still some problems in Thailand such as the problem of authorities for using the power to force for examining or examine the part of aspect's body and problems of reliability and measurement of scientific evidence.

So, the state drafts the law for criminal procedure (Criminal Evidence) Bill for resolve the mentioned problems. The result of the research found that new law is appropriate with foreign countries such as authority has power to examine without permission from suspect, supported from the institution. State responds on payment for scientific examination. The experts recommended that if the drafted law is successful, it will help the scientific examination more efficient.

Sopida Khachsin (2005) studied the research entitled “Satisfaction in Work Practice of Authorities at Central Institute of Forensic Science”. The objectives of that research were to study about level of satisfaction in work practice of authorities at Central Institute of Forensic Science, to compare the satisfaction in work practice of authorities at Central Institute of Forensic Science, to compare the satisfaction in work practice of authorities at Central Institute of Forensic Science with personal factors, and to study the relationship between attribute factors of work with satisfaction of authorities at Central Institute of Forensic Science.

Targeted population of this study was 135 authorities of Central Institute of Forensic Science. Questionnaires were conducted and data analysis was used Statistical Package for the Social Sciences (SPSS) for analyzing the data such as percentage, average, and standard deviation. For hypothesis testing was used t-test and one-way Anova and Person Product Moment Correlation Coefficient 0.5.

The results of this research found that the authorities at Central Institute of Forensic Science had moderated satisfaction. The comparison the level of satisfaction of the authorities at Central Institute of Forensic Science found that personal factors such as sex factor, age, marital, education, position ranking, salary rate, and work duration did not make the satisfaction different importantly by statistics. For the attribute factor of work had relationship with satisfaction for work practice of the authorities at Central Institute of Forensic Science in identity of work and independence in making decision for important statistics.

Royal Thai Police (2006) managed the seminar “Practical Seminar Project to Develop the structure of Royal Thai Police” at the date of 27-28 November, 2006, room 1, second floor, building 1, Royal Thai Police. The participants were high

position of Royal Thai Police. The total of seminar could be concluded that structure development of Royal Thai Police in three items.

1) **Structure and Human Resource Management**

(1) The structure of agency should correct to get appropriate with administrative system and structure of Thai society by giving the Royal Thai Police and the legal entity headquarters and police stations or equal agencies should have strength, unity, be able to manage human resource and budget section by themselves. And the public who participated working should reduce unrelated missions with protection and suppression the crime to related agencies, and the last should share the structure of duties for police should be divided into two parts such as suppression missions and mission support facilities.

(2) Personnel management should prevent the political invasion to build the stability of careers by reforming to hold the position at office the police commission to make similar with office of the justice commission should enact statutes how to appoint the position fairly, and that is decentralization. Stuffing the governmental police non-commissioned officer must be 20 years old, vocational training. Bachelor should be trained all the time and there is limitation of position appointment clearly, and correct the compensation equally to the other agencies, in which have similar missions in sections of the public participation. The Royal Thai Police sees the important of the public participation that is only one governmental agency called "Policy Committee of the Royal Police" The Audit Committee and monitor results Services of Bangkok" and at the provinces, there is the public and local organization join as the commission, that the commission is on duty of beginning, finding an idea, deciding and tracing to evaluate the work results of police. Besides these, there is related process as following:

- Draft the mediation Code of dispute in criminal investigations
- Draft the Code of private security
- Building stronger communities to control crime and vice

- Request the law and rules to support the work and compensation for police, various volunteers such as traffic, Amateur Radio, and disaster prevention and so on.

(3) Inquiry section and justice enhancing of police duty, Royal Thai Police gives the importance in correction and development of criminal procedure by:

- Defining the guideline of responsibility in inquiry section
- Improving the professional inquiry officials
- Using work team of case mediation completely for vital case by bring the forensic method to work practice.

Kewal Krishan (2007) studied “Estimation of Stature from Footprint and Foot Outline Dimensions in Gujjars of North India”. Estimation of individuals stature is an important parameter in forensic examinations. Examination of footprints provides important evidence in a crime scene investigation and helps in estimation of stature of a criminal. Analysis of bare footprints is often carried out in developing countries like India where the footprints are frequently recovered at the scene of crime. The present study attempts to reconstruct stature in a sample of 2080 bilateral footprints and foot outlines collected from 1040 adult male Gujjars of North India ranging in age from 18 to 30 years. Bilateral footprints and foot outlines of each individual were measured for ten and eight measurements, respectively. The results indicate that T-2 length (length of the footprint from heel to 2nd toe) and T-5 length in footprint and T-1 length, T-4 length and breadth at ball in foot outline show statistically significant bilateral asymmetry. Significant and positive correlation coefficients exist between stature and various measurements of footprint and foot outline ($P < 0.001$ and 0.01) except toe 1–5 angle of declination which shows insignificant correlation coefficient. The highest correlation coefficients were shown by the toe length measurements (0.82–0.87) indicating a close relationship between the stature and these measurements. Regression analysis presents smaller mean errors (2.12–3.92 cm) in estimation of stature than those of division factor method (3.29–4.66 cm), thus, gives better reliability of estimate than the latter. The regression

equations were also checked for their accuracy by comparing the actual stature with estimated stature.

Li Liu (2008) studied about “The Effectiveness of Strong Afterglow Phosphor Powder in the Detection of Fingermarks”. There are numerous types of fluorescent fingermark powders or reagents used with the visualization of latent fingermarks deposited on multicolored substrate surfaces that can present a contrast problem if developed with regular fingermark powders. The developed fingermarks can show bright fluorescence upon exposure to laser, ultraviolet light and other light sources. These kinds of methods share a common concern, where surfaces and other substrates may fluoresce also. To overcome this concern, we have developed a phosphor powder which offers a strong afterglow effect which aid in the establishment of better fingermark detection. With the advent of a phosphor powder no special devices are required and the results obtained from fresh or a few days aged latent fingermarks left on: non-porous; semi-porous and also on some porous surfaces have been good. The strong afterglow effect offered by phosphor powder is also applicable for cyanoacrylate fumed fingermarks. Lift off and photography procedures of the developed fingermarks are incorporated in this paper.

Melanie Klinkner (2008) researched “Forensic Science for Cambodian Justice”. The results of research were found that Cambodia is globally associated with its killing fields – a horrific inheritance from the Khmer Rouge era. Whilst mass grave evidence from that era is referred to in history and social science publications on Cambodia, it has not featured in a legal context to date. The establishment of the Extraordinary Chambers in the Courts of Cambodia (ECCC) creates an opportunity for a review of this evidence 30 years after the events. Those alleged to be accountable for Cambodia’s killing fields are finally being brought to justice. The question is whether this will occur with or without forensic science evidence from the mass graves.

This article explores the reasons for using forensic science in the Cambodian context and outlines its potential for legal proceedings. Drawing on relevant literature in the forensic and legal areas, the article provides a brief outline of the legal context created

by the ECCC and examines various projects that have recorded evidence relating to the mass graves. Employing an analysis of semi-structured, in-depth interviews with forensic and legal experts as well as representatives from the ECCC and the Documentation Center of Cambodia (DC-Cam), the article explores the value of forensic science for the ECCC, including its impact on humanitarian issues in Cambodia.

Jana Vanderwee , GlennPorter , AdrianRenshaw , MichaelBell (2010) studied together “The Investigation of a Relative Contrast Index Model for Fingerprint Quantification”. The quantification of fingerprint contrast is a relatively new concept in fingerprint enhancement research. It has emerged as a mode of fingerprint assessment to reduce the potential biased of visual qualitative assessment. Subjective qualitative methods that are currently reported in the literature include; side-by-side assessment, assigning a score to a treatment based on visible criteria and stating observed results without presenting supporting validation. These qualitative methods often do not state clearly the visual assessment parameters and produce a degree of ambiguity when defining the enhancement results. The relative contrast index model was constructed to empirically quantify the difference in contrast between fingerprint ridges and valleys, using measurements gained from a micro-spectrophotometer. This paper seeks to further investigate this recent research and test the model using three different micro-spectrophotometers. Data from these separate sources will determine whether the theoretical aspects of the model would pragmatically produce reliable and repeatable results across a range of micro-spectrophotometers found in forensic laboratories.

Valerio Causin (2009) studied “Forensic Differentiation of Paper by X-ray Diffraction and Infrared Spectroscopy”. The possibility to discriminate between sheets of paper can be of considerable importance in questioned document examinations. 19 similar types of office paper were characterized by infrared spectroscopy and X-ray diffraction to individuate the most discriminating features that could be measured by these techniques. The discriminating value associated to them

was also assessed. By using a sequence of these two techniques, all the samples could be differentiated.

L. Quan (2010) Circulating erythropoietin (EPO) is mainly derived from the kidneys, and the serum concentration is rapidly increased in response to anemia and hypoxia. The present study investigated postmortem serum EPO levels in injury death cases (n = 185, postmortem time < 48 h, survival time < 7 days: sharp instrument injury, n = 44 and blunt injury, n = 141) with regard to survival time, compared with Creative protein (CRP) as a marker of inflammation. Serum levels of both markers were independent of postmortem time. A survival time-dependent increase in serum EPO up to about 100 mU/ml was seen within 6 h of sharp instrument injury to the heart or a proximal major vessel (thoracic aorta or subclavian/carotid artery) and blunt injury with massive hemorrhages, showing high correlations ($r = 0.957$ and $r = 0.822$, respectively, $P < 0.0001$), whereas the increase was insignificant ($P > 0.05$) for sharp instrument injury to a peripheral vessel or lungs/abdominal viscera and blunt injury with minor hemorrhages over the same survival period. A further increase (>100 mU/ml) was often detected in cases of death about 24 h after blunt injury, irrespective of the type of injury. In contrast, a gradual increase in serum CRP level was seen about 12–24 h after blunt injury. These findings suggest that serum EPO can be a marker for investigating survival time within 6 h of major injury involving acute massive hemorrhaging.

Michael S. Pollanen, B.Sc., M.D., Ph.D., MRCPPath, DMJ (2013) had researched and surveyed “forensic survey of three memorial sites containing human skeletal remains in the kingdom of Cambodia”. The result of research was found that the skeletal remains of several hundred individuals, derived from historical mass killing, were surveyed for evidence of trauma. These skeletal remains were examined *in situ* in three separate memorial sites (collections of bones for religious veneration) situated within an approximately 30 km radius from the capital city, Phnom Penh. The main results of the forensic survey include: 1) The human skeletal remains, in the sampled memorial sites, were in a moderate to advanced state of postmortem

deterioration due to adverse environmental conditions and other taphonomic effects. 2) The poor preservation, lack of complete representation of the all bones of the skeleton, and postmortem fragmentation limited comprehensive physical anthropological characterization. However, most of the crania recovered from one site (Kampong Speu) revealed osteologic traits of the male sex. 3) A significant minority of the human skeletal remains revealed evidence of trauma in the form of sharp force chopping injuries of the lower extremities, and gunshot wounds of the head.

Based on interviews with key individuals involved in the mass grave mapping project (Documentation Centre of Cambodia), at least 77 memorial sites and several hundred mass graves are present throughout Cambodia. In addition, there is a governmental mandate to ‘examined, restore, and maintain’ the memorial sites. Furthermore, the Directors of the Tuol Sleng Prison Museum and the Documentation Centre of Cambodia have expressed an interest in preserving a collection of human skeletal remains for the purposes of historical documentation and teaching. On the basis of my findings, in the context of the interest of documenting and preserving evidence of mass killing in Cambodia, researcher recommends: 1) A representative sample of traumatized human skeletal remains from memorial sites be collected, characterized using standard forensic methods, preserved, stored, and curated in a facility in Cambodia, such as the Tuol Sleng Prison Museum. 2) Some proportion of the mass graves in Cambodia should be exhumed and studied using the modern methods of forensic archeology, anthropology, and pathology. This would provide important definitive medico-legal information on historical mass killing in Cambodia that cannot be obtained by study of the memorial sites alone.

Natalie Mason (2013) studied “Identifying and Enhancing Forensic Science Skills in the Investigation and Prosecution of War Criminals within International Proceedings”.

Despite their common use in investigations at a national scale, the deployment of forensic science skills in international criminal proceedings has only become prominent in the past three decades. In many senses, the roles and responsibilities of investigators in such cases are far greater than in domestic cases, building up a picture of multiple crimes and mass graves in contrast to processing

singular crimes and trace evidence which can often link the perpetrator to the scene or the victim. The recent increase in the utilization of forensic science in the investigations of atrocities has partially stemmed from an increased awareness of human rights violations, with the public demanding that such breaches be prosecuted. These atrocities, which this thesis shall refer to generally as “war crimes”, include crimes against humanity, war crimes and genocide. Defined in the Rome Statute of the International Criminal Court (ICC), these encompass, respectively, acts committed as part of a widespread or systematic attack against a civilian population, violations of the laws and customs of armed conflict, and acts committed with intent to destroy, in whole or in part, a national, ethnic, racial or religious group. Such acts include, but are not on the use of forensic science in the investigation and prosecution of genocide.

The main forensic disciplines utilized in the investigation of genocide are forensic archaeology, which employs structured methods to locate, manage and excavate mass graves; forensic anthropology, which uses metric and non-metric methods to analyses the physical anthropology of any skeletal remains; and forensic pathology, the study of disease and injury, which can aid in the identification of victims and establishing the cause and manner of their deaths. These inter-related disciplines enable investigators to locate, excavate and exhume mass graves - producing powerful physical evidence of atrocities and returning victims to their families. Furthermore the analysis of human remains is a very compelling form of forensic fact-finding, with forensic anthropologist Clyde Snow believing that „bones are often our last and best witnesses: they never lie, and they never forget.

In contrast, however, emerging disciplines such as forensic entomology and paleontology are comparatively underutilized. In addition, obstacles remain which prevent forensic science in general being used to its full potential, at both an operational and institutional level and within both “forensic” and legal professions. These range from issues of funding, to conflicts of prosecutable and humanitarian motives between legal and scientific institutions, to inadequate guidance in the evidential rules regarding scientific and expert evidence.

CHAPTER III

RESEARCH DESIGN

The research entitled “Strategic Development of Forensic Science in Cambodia for the ASEAN Community” It will rise about current situation on forensic science in Cambodia, strategic development and factors and conditions concerned to forensic science in Cambodia. This research is a qualitative research by in-depth interview and data collection from other related books, journals, articles, related and presentation documents.

3.1 Targeted Population

This research is a qualitative research, in which choosing the target population with many years experiences related to forensic sciences. The population of sampling this research is 24 people, and questionnaires are conducted to make interview the population. The choosing of the population is a Purposive Sampling. The tools are used to make interview such as voice recorders, videos recorders, and camera for taking photos, purposive questions, and writing materials. All related agencies in capital city are selected like Department of Scientific Technical Police, Ministry of Interior, Cambodian Mine Action Center (CMAC), Department of Health Service, Ministry of Health, private attorney and prosecutor. Each institution, researcher elicits the persons who are expert in evident collection and evident examination for enhancing the justice for the public efficiently. To make this research reliable, researcher tried to find those skillful people for interviewing. In Cambodia, researcher interviews the forensic police at position of police colonel up. This is included the practitioners who are aware of crime scene clearly, how to collect the evidence, and how to protect the crime scene. And commander, researcher will interview for finding the guidelines and ways for developing and other useful techniques. Another agency is forensic doctors. Those will be interviewed how to perform the autopsy and collect the

evidence from performing the autopsy. However, researcher will ask to know how the technology helps forensic doctors. Since in Cambodia, there is no Explosive Ordnance Disposal (EOD), that, Cambodian Mine Action Center (CMAC) helps for bombing case. So, it is very necessary for interview them in order to ask about the responsibilities and missions. Besides this, researcher would make the interview one teachers who have experiences from teaching related to forensic sciences. Apart from public agencies and non-organization agencies, researcher would make the interview private prosecutor.

Since this study is combined strategic development of forensic science in Cambodia by collection data from Cambodia and Thailand because researcher would like use the forensic science technologies or new strategies in order to develop the forensic science to apply in Cambodia, so researcher will make the interview with the same quality of interviewees as well as the sampling groups.. The chosen samples of people would have five years experiences up and position of police colonel up in case a police related to forensic sciences. Researcher would choose and make the interviews the interviewees such as the staffs at Central Institute of Forensic Science, Thailand. This agency is central one which experts in forensic sciences. However, related agency is Royal Thai Police, which be chosen the samples of police colonel up and are full of experiences in forensic sciences at least five years. This is very important for those who have researched the books and got very useful experiences. Ministry of Justice would be also chosen for interview since the research is related to justice enhancing, and justice providing for the public. Another very resourceful data cannot be avoided is professors or associate professor at Faculty of Forensic Science, and Faculty of Sciences at Royal Police Cadet Academy, Thailand where a place provides the knowledge for all cadets in order to apply for academic uses. Forensic doctors are samples of this research. Both Cambodia and Thailand are chosen the same quality of interviewees. Even though this research would be combined by interviewing, but researcher also uses the data for primary documents from many

recent researches in order to make this research is reliable and acceptable. Total samples of Thailand are 12 people.

Researcher will make the list of interviewees to make it easier to understand as following:

Table 3.1 Target Population

No	Cambodia	No	Thailand
1	Forensic Police at Department of Scientific Technical Police, Ministry of Interior 4 people	1	Two staffs at Central Institute of Forensic Science
2	Department of Hospital Service, Ministry of Health amount two people	2	Two staffs of Ministry of Justice
3	Two teachers at Royal University of Phnom Penh, interview how forensic science is recognized in Cambodia	3	Two professors or associate Prof. of Faculty of Forensic Sciences
4	Cambodian Mine Action Center (CMAC), they are in charge of bombing (2 people)	4	Two professors or associate Prof. at Faculty of Sciences
5	Two Attorneys, he experiences many years Two prosecutors at Supreme Court	5	Royal Thai Police two people
Total: 14 people		Total: 12 people	

3.2 Sampling and the Sample

For this research procedure, research will use inevitable questions to ask police officers, forensic physicians, private attorney, prosecutors for 14 samples from Cambodia and 12 from Thailand. Qualifications of key informants are having experiences more than 5 years in forensic sciences, use to teach at university more than 5 years, and some researches related to forensic sciences in order to find out the real strategic development related to present forensic science, find the guidelines to development forensic science in Cambodia. In-depth interview is divided into many parts for making interview as following:

3.2.1 Crime Scene Examination and Evident examination

3.2.1.1 Reception the Complaint and Travelling to Crime
Scene

3.2.1.2 Crime Scene Prevention

3.2.1.3 Crime Scene Record

3.2.1.4 Evident Material Search

3.2.1.5 Evident Collection

3.2.1.6 Evident Packing for Sending to Exhibit Room

3.2.1.7 Autopsy

3.2.2 Factors Affect to Forensic Sciences

3.2.2.1 Practitioners

3.2.2.2 Human Resource

3.2.2.3 Management

3.2.2.4 Work Procedure

3.2.2.5 Budget

3.2.3 Problems of Obstacles in Evident Collection and Evident
Examination

3.2.3.1 Practitioners

3.2.3.2 Human Resource

3.2.3.3 Management

3.2.3.4 Work Procedure

3.2.3.5 Budget

3.2.4 Suggestions for Development

3.2.4.1 Practitioners

3.2.4.2 Human Resource

3.2.4.3 Management

3.2.4.4 Work Procedure

3.2.4.5 Budget

3.3 Data Collection

The data is collected with mixed research as following:

3.1 Data collection from documents or the data, in which extract from books, description, journals, thesis, research, internet search, handouts, and other related documents.

3.2 In-depth interview is conducted with structure interview. Researcher prepares well to manage the questions from called open-end question. Interviewee could express the ideas freely and independently within the questions of researcher.

3.4 Data Analysis

The study entitled “Strategic Development of Forensic Science in Cambodia for the ASEAN Community”. Researcher will analyze from data found, field study, observation both structure and participation, sample analysis from in-depth interview through the qualitative research including to using the related theories analyzing the data such as knowledge management concept, concept of efficiency, concept of enhancing the justice, lesson learned visualization, SWOT analysis, concept of system analysis, basic concept of organization, concept of police affair system, and concept of evident collection. Importantly, researcher will analyze the factors affect to forensic science both in Cambodia and Thailand, especially the problems and obstacles of police officer either related personnel in evident collection and evident examination.

CHAPTER IV

RESULTS OF RESEARCH

After studying about forensic science in Cambodia, which focusing on evident examination, evidence collection and autopsy. There are many cases in Cambodia that dismissed the complaints since there is not enough evidence to get through justice. Researcher analyzed about the current forensic science, crime science search, and introduction how to examine at the crime scene, actions before going to crime scene, and evidence collection, strategic development of forensic science as following:

4.1 Current Forensic Science in Cambodia

Forensic science is under the Department of Scientific Technical Police, Ministry of Interior. Until now forensic science still has not been used for special cases or big ones to support the justice system in Cambodia. There are many problems behind it such as the management problem, politics issue, lacking of budget, lacking of qualified human recourses, forensic tools, especially the government or the public have not concerned the importance of forensic science in Cambodia. As Cambodia is the country where just started and opened the country, so everything is still limited in Cambodia. Deputy director of Department of Scientific Technical Police had explained that:

“A history of forensic science in Cambodia launched since People’s Republic of Kampuchea (PRK) until Lon Nol regime (1970-1975), it disappeared during Khmer Rouge era (1975-1979) whole national structure was lost because of Pol Pot’s destruction. So in 1979, Cambodia got freedom, and forensic science was started up again called “Criminal Technical Scientific Section” officially announced that name in 1980. It was one part of investigative works of criminal police in Cambodia. However, it develops from that time until present day. Whereas development line,

later in 1986 it was changed a name into an Office of Criminal Technical Science, but in 1994 after first national election, and Cambodia was necessary to get national coalition, it was created as a Department of Scientific and Technical Police. In present day, this department is named as Department of Scientific Technical Police”.

“For structure of Department of Scientific Technical Police through Procedure Code, Article 109 dated on 19th August, 2015 in which new law to limit about the duty and function of Department of Scientific Technical Police. Department of Scientific Technical Police is under Department of Central Justice Police, and Department of Central Justice Police is under General Commissariat of National Police, and General Commissariat of National Police is under Ministry of Interior. Just for clarification, there are six expert offices in Department Scientific Technical Police. One of six offices is an administrative office, and other 5 offices are expert ones” he added.

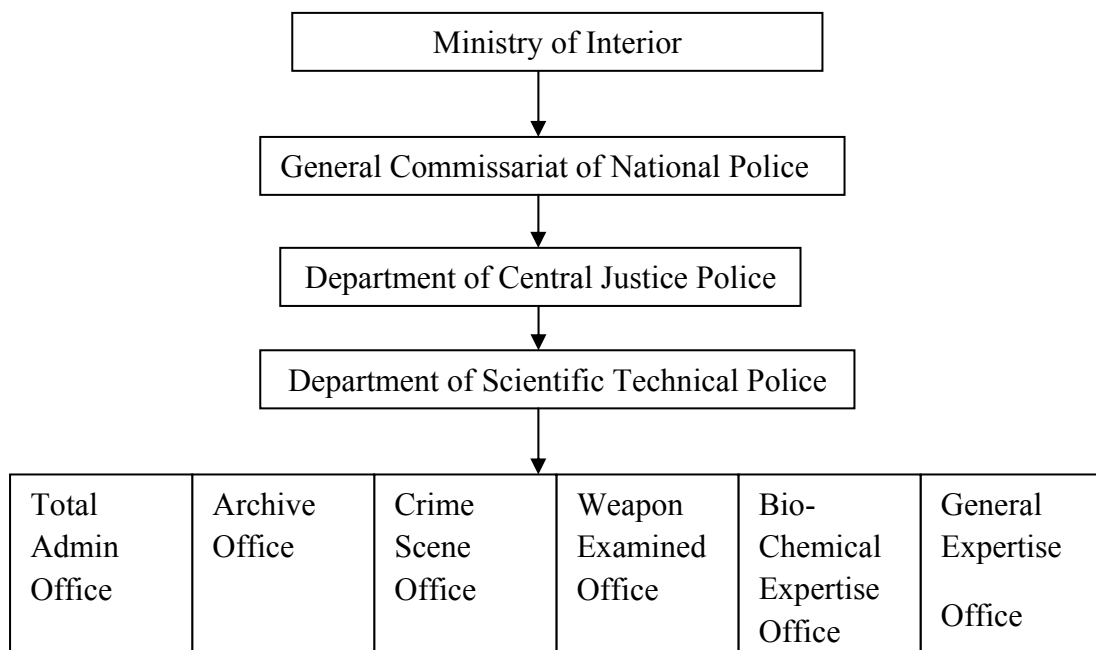


Figure 4.1 Hierarchy of Structural Perspectives

Hierarchy of Structural Perspective in Department of Scientific Technical Police

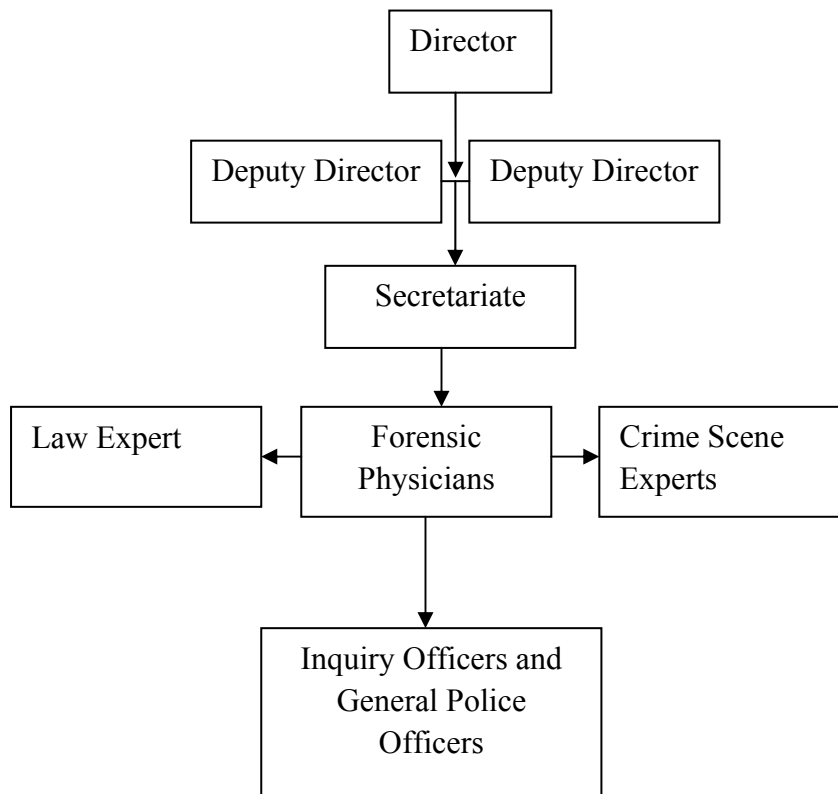


Figure 4.1 Hierarchy of Structural Perspectives (cont.)

Within Department of Scientific Technical Police, there is one director, and there some duty directors functions as assistants to director.

4.1.1 Inputs

In general, Department of Scientific Technical Police is required “all candidates who finished at least bachelor degree from direct forensic science, chemical skill, law skill, engineering, language skill, or doctors and so forth” in charge police explained. In this case, national policy requires all candidates to finish at least bachelor degree, and one language. Those candidates who selected to be forensic police must know English in communicative level for everyone; otherwise they will not be chosen to be forensic police. Deputy Director at Department of Scientific Technical Police told researcher that all new police officers must be trained both long terms (3-6 months) and short terms (1-2 weeks). He added that:

“There are five doctors at Department of Scientific Technical Police, and all of them can do other businesses or work for private companies besides police officers since their salary does not deserve their ability”.

“There are three levels of scientific technical police such as national level, provincial level and municipal level. All over Cambodia, there are approximately 700 scientific technical polices, but in the capital city there are around 145 police besides those are in the provincial levels and municipal levels. Just want to clarify that among 700 scientific technical police, there are only more than 100 forensic police. In capital city, there are five expert forensic police (mostly doctors). And there are three levels of experts such as medium level around 50 police officers all over Cambodia. And senior experts, there are about 10-20 police. Then Department of Scientific Technical Police also trains normal police officers to become experts for taking from 3-6 months training. For police officers who were trained to become experts in order to collect the evidence at the crime scene. So all police officers who are not evident examiners, they are responsible for collecting the evidence. In short, there are 600 evidence collective police officers in the provincial and municipal levels, and national level there are about 100 police officer, so in total there are more than 700 police officers who responds for evident examination and evident collection” he continued.

For chemical and biological parts, mostly doctors are selected to be forensic police by taking exam at Police Academy of Cambodia. Then they are trained about criminal science, legal medicine, and so on. All past candidates are to train for three months at Police Academy of Cambodia.

During researcher made an interview one of technical forensic police at General Expertise Office, Department of Scientific Technical Police, Ministry of Interior

“Forensic science in Cambodia is almost zero since I become a forensic police for nearly ten years because we do not have enough budgets to buy an laboratory instrument even though the government has not realized an importance of forensic science. Some forensic tools such as power, Bluestar forensic tablets (for criminal investigation), fuming box for forensic development, lightening color, which using at night time, and so on are supported by foreign countries such the Norway or Japan, and also NGOs”, he explained.

It is very interesting when the people in Cambodia never understand about the term of forensic science. For example, forensic physician performs the dead body by themselves with forensic tools in order to examine and search the evidence. For this reason these physicians just only observed the body externally. It could be concluded that the forensic science is still limited even though the importance recognition of forensic science for helping in justice system. Moreover, it is hardly to find the forensic police who graduated directly from forensic science.

Nowadays, Cambodia has some basic forensic tools and equipment as following:



Picture 4.1 Telescope for checking and writing and photos.

It is embarrassed to say that Cambodia has this for examining the handwriting examination for this. This photo researcher took it from General Expertise Office, Department of Scientific Technical Police, Ministry of Interior, Cambodia. Any case related to handwriting examination such a fake signature or fraudulent. This tool is used to find the truth. However, police themselves take a look and examine, also decided by themselves, one police that researcher made an interview said. One specialized officers said:

“It is completely the same as normal telescope, in which we use it for zooming an object far. No doubts, “this tool is also very helpful when police needs to

use it as zooming tool to see and compare between suspicious one and real one, referring to signature or handwriting”.



Picture 4.2: Crime Scene Carrying Kit

This kit is used when practitioners go to the crime scene. When forensic police does the mission, they brought this bag. This bag is full of forensic tools such as semen in raping case, powder for examining fingerprint or palm print, and evidence notice number and so one. Senior forensic police said that this kind of tools has only in capital city. There is no such a forensic tool in the provinces, so when the crime happened, capital forensic police have to go. In such a mission, sometimes those police are informed to go or asked by provincial forensic police. However, if there is very important case like political conflicts or famous case, in which the public focuses on and interest in, capital police must go to help without asking or requesting from regional police.

Besides these forensic tools, Cambodia also has other kinds of forensic modern technology.



Picture 4.3: Bluestar Forensic

BLUESTAR FORENSIC is a new reagent whose purpose is to reveal blood stains that have been washed out, wiped off or which are invisible to the naked eye. This product is intended for crime investigators.

Based upon chemiluminescence, its unique formula qualifies as the most effective blood revealer available on the market, for crime scene as well as forensic lab use.

BLUESTAR FORENSIC does not alter the DNA of the revealed blood which allows for its subsequent DNA typing. It is also compatible with ABO typing. Furthermore, it is safer and easier to prepare and use.

This tool is also important for crime investigation in order to detect the blood, in which was washed out. For, example, one place crime scene happened at one place, and there was much blood at that place. However, criminal or innocent people would clean the blood intentionally or unintentionally, the blood disappeared. But this tool is used, it must be invisible. One high position of police officer, forensic technique office, Department of Scientific Technical Police explained that:

“This tool is always brought to put together with other tools which common uses. It is a raw tool, so one package bag of forensic tools contains only such a kind of tool”.



Picture: 4.4. Forensic Powder for Examining Fingerprint.

Besides this, Cambodia is also common to use other tools, in which it is helpful for crime investigation such as a Forensic Powder for examining the fingerprint (please kindly focus on the black bottle because researcher did not zoom for specific one). Interviewee added that there is powder in every color, so it is easy to use even though what the situation is. And fingerprint examination, in Cambodia there are many ways to examine such as powder, medicine and Fuming Box for fingerprint development.

It is a kind of fingerprint examination, too. For usage, it is used somewhere that latent fingerprint may attach, mostly at the door or other things. We put the powder on those suspected things in order to check whether there is fingerprint appear or not. And after forensic police that fingerprint, they would bring to compare with suspect's fingerprint. If it is same with ten points, a suspect must be an offender. In the next picture, researcher shall put an example for making clear about that. Even though there are complete colors forensic powder, but it cannot be used in every situation. For

instance, forensic police suspects that there must be fingerprint on the plastic bag, so powder is not available to use because the plastic bag is too soft. However, Cambodian officers still use other one tool for resolving the problems of fingerprint on the plastic bag is “Fuming Box”.

Fuming Box is a useful tool for examining the fingerprint on the plastic bag. Readers may wonder what kind of tool is. It is very easy to use. Technical forensic police officer explained researcher that we just put the samples what we think that there is a fingerprint of suspect attached in, and we use cyanoacrylate put it and a fuming box, too. Later plug in for around five minutes and then, we are going to see fingerprint on that surface if applicable.

After fingerprint is developed, the camera can be used to capture and insert into computer in order to see the same ten points between suspect’s fingerprint and the latent one, where we consider as crime scene and criminal may leave on.

Surprisingly, there is no DNA examination in Cambodia since expenditure is very high for each case. Pol.col. claimed that all cases that needed to use DNA, those must be sent to Vietnam or sometimes sent to Thailand to examine. Each case is spent 500\$ to 700\$ on DNA. So it is very expensive for the poor because government does not have any budget for supporting besides no DNA examination tools. For spending on DNA, whose parties must pay by themselves if they do not agree with judge or decision making to both parties. That is why it is rarely used DNA in Cambodia.

For a place that forensic police send to examine the DNA in Vietnam is Forensic Institute in Vietnam where they have a branch or mid-man in Cambodia for bringing to examine. Whereas, Thailand, Cambodia forensic police said that sometimes they sent to private hospital and sometimes sent to Central Forensic Science Institute, Ministry of Justice, Thailand.

However, researcher had asked an examination in Thailand already. It is not expensive like that police officer told researcher. But it must be spending on transportation or other benefits which are denied to tell researcher.

All mentioned above are about present situation on forensic science in Cambodia. Although nowadays related agencies are trying to develop as hard as possible in strategic development on forensic science in Cambodia, but there are still

many problems in forensic science process besides money already. Cambodia is a developing country where a country considered very lack of forensic tools because it is expensive. So the next sub-topic, researcher will raise about problems and obstacles factors.

4.1.2 Crime Scene Search

Technical forensic police requires having special expert and professional experiences to search at crime scene. Search at the crime scene is very important to process in order to make the case successful. Opposite way, if someone destroys the evidence at the crime scene, it is so hard to find the material evidence.

Crime scene search must consist of carefulness, correction and seriousness. The action must focus on the disciplines and technological practice such as a survey; take notice, and other evident collections. Forensic science is really important tool to support the investigation to be used in trial. So the function of technical forensic police must help the court by checking at the crime scene correctly and carefully through description of scientific guidelines and forensic science to make sure that record, collection and search related evidence. Technical forensic police in Cambodia must follow the process of crime scene search without excuse and bias to provide that evidence for the court considerate.

In Cambodia, technical forensic police must consider themselves as witnesses of the court and must record, take notice, collect and examine all related evidence even though exist or nor exist one at the rule of law. After collection the evidence, technical forensic police could help the court to identify them as criminals for sure, relationship between suspect and crime or crime scene, stop investigating in case of suspect not a real criminal, and receive the explanations of witnesses.

Every situation of crime scene is different, the ways and techniques are set to assist forensic through systematic knowledge providing and re-raise each investigation concerning with crime scene. For example, there is weapon robbery at one local market (Shopping Center, Walking Zone). It must be considered as first crime scene. After criminal commits the crime and walked out and count the money or dropped the weapons, must be considered as second crime scene. We have to search

both place (first and second crime scene) because some evidence could be found at those places. Those places are following:

Table 4. 1 Crime Scene Search

Crime cause place	Crime must be checked and taken action.
Suspect home	Is there any evidence at suspect home? Is there anything to prepare committing or already committed?
Suspect workplace	Is there evidence at suspect workplace or not? Is there anything to prepare committing or already committed?
Escaped Road	Does criminal leave the evidence along the road or drop the weapons. This point is very important if the suspect is traced to arrest.
Victim's home	Is there any important evidence such as clothes that showed how he/she was hit or they fight with the suspect.
Hospital that victim was sent	Is there any of victim's clothes at hospital or at other places?
Where the suspect arrested	Must check carefully where the suspect was detained.
Detaining	Is evidence destroyed?
Evidence stays with the suspect	Must search on suspect's clothes and wallet or pack in which stay with the suspect during arresting as evidence.

The chart above is not in details about evidence places. Investigator or a person in charge must study and find other places, in which could find the evidence.

Evidence: There are a variety of evidence features such as things, liquid or gas that can be big or small, seen or unseen. In case, there is a crime; there will be some places, in which found such as for suspect likely a residence, transportation, workplace of suspect. It can be found from the victims and crime scene. Moreover, the evidence can be shown about the offense and the crime that had done for it, known how to commit it or known how the criminal committed it or incident happened.

Forensic officer added that evidence is also shown about real offender or not and agree or not agree with other evidence were brought to examine.

For noncriminal cases, evidence can be defined what the causes are such as accident, death, arson, and other problems. The most important factor to certify the evidence is ability to find and keep it as well as possible as just get it from crime scene. General investigation is divided as strategy for making convenient and evident protection. One case can be done must follow as following:

- Check, evaluate, notice, and collect the evidence from crime scene and other things.
- Compromise on crime scene research and various things by professional police.
- Send technical forensic specialists to go.
- Reveal and present the results for correcting to justice system and the court.
- Study, trace, create and introduce useful ways.
- Communicate with investigative police in order to use evidence efficiently.
- Play important role to communicate with investigative police, laboratory and external specialists.

4.1.3 Responsibilities to Investigation

Final responsibilities for investigating the whole crime is a burden of investigative police and their commanders. Those police officers must continue tracing that crime until it finishes successfully. Police have to discuss with investigative police, forensic police who are working autopsy and can examine the forensic science after consideration to see that there is something suspect such as situation, weather and other related factors.

Normally police in Cambodia always limit the punctual time and crime scene controller must send the news to investigative police about the process of crime scene examination. Suddenly, investigative must send the news to the crime scene controller about development of investigation concerning with forensic evident examination.

4.1.4 Responsibilities of Police Officers

General Responsibilities

For some big crimes or crime scene searching must be responded and functioned by the police. The following functions are the principles, in which insure that every effort on crime scene searching must be practiced through the system and correct methods. In Cambodia, in general, one police officer must play in charge of two duties or more.

For sending the police to do big cases like a big duty and high responsibilities of technical forensic police who go to search at the crime scene as following:

4.1.3.1 Crime Scene Protectors

In case of technical forensic police are asked to join, the ones who arrive first, must be called “Crime Scene Protectors”. One of technical forensic police is appointed to control on crime scene and autopsy. Management, check or other responsibilities can be transferred to other people regardless to manner of that crime. Responsibilities: for allowance to enter the crime scene must get permission and be introduced by “crime scene controller” or representative. The crime scene controller has functioned as following:

- In charge of participation of scientific technologies including to autopsy and related prosecutors.
- Keeping controlling the crime scene until everything is finished such as autopsy, search and examination.
- has authority to protect other people not to get into the crime scene in order to protect the evidence and avoid losing or destroying the evidence.
- insures the security at the crime scene
- insures on autopsy controlling, practices legally and provides safe work in crime scene checking and evident controlling.
- evaluates on crime scene.
- limits the ways to find the evidence.
- limits/coordinates in work group properly.
- keeps communicating.

- re-evaluates often and controls the demands at crime scene efficiently.

- evaluates the accident at crime scene.
- plans to investigate
- makes considerations on obstacles of searching
- controls case files.
- not allow outsiders to get into crime scene firmly.

After forensic examination has been done, the crime scene controlling must be given to victims relatives.

4.1.3.2 Crime Scene Coordinator

In case of severe crime, the head of Department of Scientific Technical Police, Ministry of Interior, Cambodia, has to act as “crime scene coordinator” . He/she in charge of controlling all technical forensic police at the crime scene, but cannot respond on crime scene examination.

Crime scene controller has to invite the crime scene coordinator to participate in case of that crime or situation is very severe and complicated. The problems because of some factors as following:

- size of crime scene.
- a number of death/or injured persons.
- identity of dead people, injured persons and/or victims, suspects/criminals.
- Disagreement between scientific and investigative perspectives.
- the crime concerning with terrorism.
- necessity of politics
- shot by police caused someone dies.

In short, crime scene coordinator is in charge of keeping communication between police of department of penal and other necessary agencies.

4.1.3.3 Photographer

- Takes photos at the crime scene through introduction of crime scene photo taking
- Reports of photos taking

- Send evident photos to the court

4.1.3.4 Specialists of fingerprint and footprint examination

- Helps to search at the crime scene
- Evaluates the crime scene related to evidence (where that has fingerprint/footprint

entry and take out

- Examines the fingerprint/footprint, evidence listed in the

4.1.3.5 Police officer in charge of evidence

- Scan the evidence fingerprint/footprint
- Must be insured that every evidence is taken a photo before collecting

- Must get successful in case files that concerning with crime scene and kinds of collected evidence

- Keep the chain of custody and give the collected evidence
- Must collect all related evidence correctly to procedure of evidence keeping

- Maintains and keeping referencing documents of evidence

4.1.3.6 Others

Police officers or other specialists who can help to search and examine the crime scene as following:

- EOD officers
- Biological and scientific officers
- Bullet examination specialists
- Other specialists

In Cambodia, there is also the general safe clothes. There are two reasons that urge the police officers wear safe clothes at the crime scene such as 1) protect the police officer from have accident because of chemistry, biology and science at the crime scene that might affect to the officers' health, and 2) protect or reduce the change of virus spreading, impact the evidence where existing at the crime scene.

Crime Scene examiners in Cambodia wear suitable clothes according to the kinds or how serious the crime scene is. At the first researcher would

like to raise about the crime scene where it is full of death bodies, That place, police officer wears very appropriate clothes before going to that crime scene, especially a place that has bad smell of long dead people. Those are whole covered clothes from the head with hat, masks, gloves for surgery, boots, glasses, firefighting tube, and so on.

4.1.5 Telling the News or Request to the Crime Scene

As technical forensic police is told the news to go record the crime scene, police must prepare the documents and rush to do something such as notice time, and date in the request to go the crime scene, note how police gets the this news, write the details of a person who tells this news for going to the crime scene (phone number, address, and identity), try to contact for getting more details of that crime as much as possible among investigators who arrive the crime scene first, and start noting any action related to crime or at the crime scene.

4.1.6 First Action at the Crime Scene

Before going to the crime scene, crime scene controller is appointed to check whether police officers at crime scene are specialists appropriate to the crime or not. If those forensic scientific police officers have to be: 1) Crime Scene Protectors, photographers, drawers, evident specialists, other necessary specialists and regional authorities, 2) considerate on practical instruments are ready to search the crime scene or not, 3) use those instruments to examine as much as possible, 4) think of other things, in which are needed to use more, and 5) start practicing and continue to prepare the case file. If it is possible, technical forensic police must contact the police officers at the crime scene first before going there because it is easy to think and prepare ready instruments for examining the crime scene.

In Cambodia, first respondent who goes the crime scene first is juridical police, 1) members of technical forensic police at crime scene who are required to check the risk that might happen based on real situation, emergency help the injured persons or shocked people at the crime scene, make sure that there is a real crime or not, take the criminal out, search and secure for the criminal, keep the witness away in order to take note all details of witness and do not make the witness feel insecure or

frightened without any force to answer, for in case that cannot do like that, police in Cambodia always try to let those witnesses stay at the same place first. Then in charge police continues to keep the important evidence to investigation and take action for collecting the vital evidence, especially the evidence can be dangerous before collecting. Later, police over there limit the length of crime scene or second crime scene, for example: in case of shoot for killing, sometimes someone is killed at one place (first crime scene), but they can be dead at another place (second crime scene). Thus, along the way or road where those victims run, it might keep some evidence dropped on the way such as blood, hair or bullet of criminal who shoots. After knowing clear length or size of crime scene, police at crime scene mark the border of crime scene by using police or anything that can limit the ground of crime scene and to show that outsiders or no duty people are not allowed to enter. In order to keeping the case list, police starts to note the crime scene concerning with everything, and this is very important for appointing one police officer to take care or keep that case list after discussion with investigative officers. To avoid losing the evidence, it is destroyed unintentionally or intentionally, all people at the crime scene are asked to go out, and ban other people including to police officers not go to crime scene if there is no duty. Moreover, it is very important to tell all related agencies because those are useful for helping each other in order to accomplish the work quickly, for instance if the case happens in the district, inform the police chief, in the provinces or capital city, must inform the general commander, and at the ministry (related departments). In this procedure, in charge police have to rush to tell all related prosecutors for getting into the law. Later on, police at the crime scene take notice and draw the crime scene. Such a drawing is not necessary to draw with standard, but it just show that how the size and length of crime scene is enough. If the case happens at one building, any evidence is measured from easy remembering place. 2) Before going to the crime scene, its controllers have to consider as following:

- all destroyed properties are considered as influence of accident.
- bloodstain, water from dead body and tissue must be considered as a biological accident.
- any dead body must be considered as biological accident even died because of violence.

- accident because of machine, it cannot be predicted. Thus, investigators must be careful since it can harm to ourselves or other people who are on mission at the crime scene.
- no allowance (even other police) to get into the crime scene if there is no duty.

4.1.7 Limitation Relationship of Crime

Firstly, one police officer at General Expertise Office, Department of Scientific Technical Police, Ministry of Interior, Cambodia told researcher that police officer must find out availability of suspect (target) that gets into the crime scene. Later, in charge of police officers must think how long the crime scene will be kept, and there is news about any person goes to destroy at the crime scene or not before police officers go to protect it. To make sure that who is going to the crime scene, in charge police officers have to ask the name, age, address and career of that person. After that, must see entry gate and outfit of suspect, and then make questions whether there are something is removed, touched or taken away from that place or not. Other things are that there is an accident happens at the crime scene or not. Is there a measurement takes action to secure the safety at the crime scene or not. And the last thing is that there is health protection, safety, and accident enough or not. All mentioned above are talked about the relation of crime scene that those police officers are to think and follow all the steps for Cambodian police.

4.1.8 Temporary Search and Crime Scene Check (Walk around and Evaluate)

In generally, when police officer walk around the crime scene in order to check and evaluate the risk or what they are necessary to ask for help from other agencies. And then walk the same way that police walked through to the crime scene. If it is possible, must limit the gate and outfit of suspect walks or at the crime scene or crime scene. When police officer does like this, it can help a lots in finding the evident materials, so they can limit the place where is protected or collected the evidence in as big ground as possible, If there is one material, which suspected that it is evidence, must be considered as evidence and technical forensic police finalizes it whether it is

evidence or not. All first evidence are collected at the crime scene or after collected, can be important news in order to define who the criminal commits and identity of the offenders. All juridical police have to collect and protect the evidence all the time.

As mentioned above all police who are at the crime scene first must protect it originally and firmly until technical forensic police have come. Criminal police who come to crime scene first must evaluate criminal place and evidence that found in order to certify that technical forensic police will come or not.

4.1.9 Careful Taking Actions to Protect the Evidence

After collecting the evidence, it must be kept safely and protect it as well as possible. There are many cases that the evidence are stole or transferred to other police without permission or getting into correct process. However, in charge police have to certify that “you all receive exist news” and take emergency actions and tell clearly why needed to do such a mentioned reason. And the last one is specifying which evidence is required to examine in details and where it is. Police officers have to consider with suitable reasons about it.

4.1.10 Security at Crime Scene

Technical forensic police have to communicate with other police at the crime scene for making clear that everything is safe and sure for practicing the work, otherwise, they themselves have to create the management. This is can be concluded that provide the security for everyone. One more thing, let anybody guards every spot of enter and exit of crime with notebook to take not all the people who come in or exit and the people who are not allowed to enter. However, must prepare the personnel to guard at the crime scene all the time.

4.1.11 Protection during Examination

Technical forensic police officers have to keep in touch police at the crime or create the security by them before examining the crime scene. To limit the ground of crime scene length, all related police officers are necessary to use Police Line correctly and put the police officers along the police in to guard enough until the evidence examination is finished. Another important point is to protect and guard the

crime scene, and only do as status standing but must be real work by looking and noticing around the crime scene for seeing other people come to disturb during the evident examination both in front and the back of the crime scene. The last point is to communicate with investigative police to not the suspect (target) enter the crime scene unless all the evidence are collected because one hundred percent of the offenders will destroy the evidence.

4.1.12 Transferring the Crime Scene

This transferring the crime scene to other people is very essential so much because it can be the serious problems if changed to wrong people. The transferring the crime scene must be to a member of investigators, place owner that get permission from police officer in charge of investigation. After transferring the crime to someone already, must be noticed the time, date and all related people in that case.

4.1.13 Practice Theory of Transferring Things at the Crime Scene

In generally, everything has its theory even the transferring the things at the crime scene, so the problems must be considered such as necessity of self-protection tools, evident materials, evidence that can help to certify in order to arrest the suspect successfully or intensifying the identity of the offenders, collect everything related to the explanation of every party (victims/witnesses).

4.1.14 Check and Practice through Crime Scene Technology Search

The process of crime scene search must be aware that the check is done by forensic technology and be careful every step during work practice. If there is something disturbs, the search is still continued without stopping efficiently. Other means, it can be said that during practicing must follow the considerations such as search on the day time if possible (except in the situation that is necessary to use high technology when night time or will be impacted to the investigation). For the investigation of dead case, must protect the crime scene till the sun rises otherwise, there be something comes to bother, and the last point is to think that there must have enough additional police officers, specialists, and other tools or not for working.

There are some different search technologies to ensure that the crime scene is searched strictly and firmly. There are five defined technologies for using to search the crime scene such as 1) curly scientific search, 2) small separate ground search, 3) big separate ground for search, 4) harrow search, and 5) search on direction of suspect who committed the crime.

4.1.15 Crime Scene and Evidence Check to Ensure the Influence of the Evidence

This will mention briefly why some evidence in to examine in details or not necessary to examine, and need to collect or not to collect it. For example, strange evidence that found at the crime scene, in which related to somebody and can be useful for identity of witness or suspect. Tools are used to commit the crime and those things are important to investigate and for trial process at the court. The destruction or desired plan to commit the crime because it is very useful for limit the time order of crime. Another important one is that the place and feature of the things are special because of their shape (Ex. the furniture is moved out during committing the crime). Relation of the scar can be important such as similar footprint, in which must be the same person, and also shown that where the offender walked from one place to other places.

Then, police officers must consider the second crime scene, where is the next crime scene leaves the evidence concerning with the first crime scene, so members of technical forensic police must search the relation news of second and first crime scene. The process of this step is focused on surveying and evidence in order to investigate completely, strictly and the most valuably. It is to pay attention for keeping the efficient investigation, not partial (scientific way) and correct direction.

4.1.16 Photos/Videos

Photos can be shown the details of logs in crime scene and some places that have other evidence. Thus, before bringing that thing outside, must take a picture first and must take every corner of those in need. The captured photos are not necessary to make the logs, so photos can re-remind the memory of some views at the crime scene only. However, we do not rely on the photos only, but also make the full

logs. All things are needed to take photo and take note all details of those things where we see at the crime scene. Those can be important things and be replaced the videos or photos. Videos can show the real activities of the situation, one evidence to others, and moment of photos. If talk about the kinds of photos such as overall photos taking, quite far taking, near taking, and technical taking including digital photograph, and big size photos.

4.1.17 Measurement/Layout

More logs generally is to measure the crime scene. But this is not the detail of crime scene. Layout can shows the location of all details of crime scene. The layout can show the location and relations of other things, in which do not mention completely in the logs. Layouts of crime scene make the technical forensic police included every evidence and all related things such as graph can indicate the crime scene and the surrounding of the crime scene, important identity, huge things, evident materials and evidence, locations of concerning evidence, necessary measurement, and directions “North” is required to put “sign”.

4.1.18 Evident Collection and Evident Packing

Some technologies are created to collect the prints and other evidence. Each technology is managed to protect the destruction and loss the origin of evidence. However, it is necessary to discuss with other specialists for keeping those evidence originally, and must consider such as evident collection, in which were destroyed because of wind, vehicles, and flooding and so on. However, it should collect the evidence that can provide the safety when go to pick the death body up or other important places along with crime scene. Various crime scene left evidence the most or it is examined, the dead body can be brought out. Then we can think over the places that can give the news of the suspect. The examined evidence can be allowed to bring out by crime scene controller or other police officers in charge.

The way to collect and pack are sometimes different according to the reality of that evidence. Each evidence has its collective methodology and strategies as following:

- Use clean tools for collecting the evidence, for example: shock...

- Each evidence is to pack in different package to avoid breaking or losing.
- Each pack/box is to tape closely to avoid losing or breaking, and must sign on the tape or graph on in for clarify the packers.
- Should not use max or other things to stick on pack or box because it can be dangerous to receivers.

4.1.19 SWOT Analysis

Seeking the guidelines for forensic science development in Cambodia in order to provide the public to reach the justice system by such a real forensic science using in global standard, and the fact from the study of principles of concepts, theories and thoughts. The research is conducted by interview senior academicians, private sectors, governmental sectors and all related agencies to survey comments from concerning practitioners related to forensic works in Cambodia. The data is brought to analyze for setting the guidelines of forensic science development to become efficient and convenient for the public.

4.1.19.1 Strategic Planning

Strategic planning here is referred to process planning or adjustment, development for adjustment, adjustment, strategic development of forensic science, and practical planning, explanation for practice, the ways that related agencies change the plans as the situation is changed, and how to survey the succeed, in which focus on three main strategic plans as following:

1. Focus on service users: the public who comes to take a complaint at police station, especially poor people, do somehow they can receive the justice fairly, and responsible persons are organizations, institutes or governmental officials in justice system as well as rights and freedom assurance, and Ministry of Justice, NGOs should provide the fair services for the public...ect.

2. Adjustment of process results effect to efficiency adding and justice enhancing, and forensic science development for evident collection, evident examination and autopsy in Cambodia in order to provide the justice for the public altogether fairly and discrimination in Cambodian society, in which it is a good image for Ministry of Justice both short and long periods. To reduce the problem of

disputes, build the competency to protect and aware of correct check and transparency of justice system process including to work practice such as case delay or fast service, compensation and be flexible for making the whole organization become sustainable.

3. Adjustment of process results for adding the efficiency in justice enhancing, adding the efficiency in justice fund in order to provide the justice for the public altogether fairly and discrimination in Cambodian society, in which it is a good image for Ministry of Justice both short and long periods. To reduce the problem of disputes, build the competency to protect and aware of correct check and transparency of justice system process including to work practice such as case delay or fast service, compensation and be flexible for making the whole organization become sustainable.

So, analysis is important to evaluate various factors such as strengths, weakness, opportunities, and threads as well as the skills for working through its strategies, using human resources for the most useful in development. It could be assured that there are enough trained police officers for working at any institution. Furthermore, it could define short and long demands, which provide benefits and suitable for three levels of the same guidelines as following:

- (1) Levels of organization and executives
- (2) Levels of important process
- (3) Levels of agencies and individuals

SWOT analysis of forensic science development by analyzing internal factor-strengths and weakness and external factor is threads and opportunities, so SWOT analysis will explain about strengths, weakness, threads and opportunities of forensic science in Cambodia in order to set the policy or target objectives were created in strengths of an organization and find benefits from environmental opportunities and be able to define the guideline of strategies to overcome the threads or reduce the weakness of negative factor for strategic development on forensic science. Thus, SWOT analysis will analyze both internal and external environment as following:

1. Evaluation the environment within organization

Evaluation the environment within organization is referred to evaluation on forensic science analysis in Department of Scientific Technical Police, Ministry of Interior, Cambodia and consider the human resources and competency as below:

Strengths are an internal analysis from concepts within very organization whether forensic science from the past until now, and seeking the strengths or exist weakness:

- Strengths

(1) There is a check and adjustment the process of forensic science-evident collection and evident examination as well as autopsy continuously and direct police officers have to develop all process to reach the goals and the benefits for the public. All of these have been found that development and change so far in order to find the guidelines for strategic development on forensic science, especially work practice such as power distribution to interior.

(2) Provincial police officers are mostly working hard, pay attention, have skills, and expert development related to forensic work often, helpful to co-operators and be able to resolve the problems which happened very quickly and operate strictly including to being able to work without enough forensic tools and forensic police.

(3) There is a training course both international and national training courses. The periods of trainings are starting from two to 6 months, and it depends on whether long or short periods of training. National training is taken place at Police Academy of Cambodia, General Commissariat of National Police under Ministry of Interior. And international training is happened in Thailand, Korea, China, JICA (Japan), and so on.

(4) There is a national strategic development planning and roadmap every 6 months, one year, three years and five years that's work practice is gone smoothly (but real practice it is not yet in standard training since there are some problems in evident examination and evident collection reply on police officers' experiences without using forensic tools).

(5) Allow schools or universities and related agencies come to study or research for seeking the guidelines to develop and resolve the problems are facing with. This could make forensic science efficient, qualified and acceptable but lacking

of external coordination, in particularly agencies in justice system so that the process and commutation are based on private relationship for achieving the goals.

(6) Coordinate with related agencies within Ministry of Interior in regional sites such as General Commissariat of provinces, justice police, criminal police and crime scene protectors and so on. But within the Ministry, there is knowledge sharing exchange, training and document management for distributing in Department of Scientific Technical Police gradually.

- Weaknesses

Weakness is an internal analysis from related perspective such as police officers or work practice related to forensic science, forensic physicians, justice police, juridical police and associated agencies such as provincial justice as well as personnel within an organization so that there is a weakness of forensic science-evident collection, evident examination and autopsy and so on.

List of weakness as following:

(1) Process of forensic work is still delayed since there are some problems such as problem of budget allowance in case central forensic polices are required to the provinces, those needed to spend their own money first and one or two later they are given back, and some they got less than they spent during the mission.

(2) Work security is also a big problem when forensic police go to crime scene where there is chemical or other things could treat badly to their health since forensic tools for wearing such as safe clothes, masks, safe hats and so on. Whereas some forensic police officers are lacking of forensic knowledge, enough experiences, in which some cases police themselves had destroyed the evidence unintentionally. Other one is lacking of expert persons who can use forensic tools because of a little salary, so some of them resigned and some changed jobs for better standard of living.

(3) There is a problem of un-meet need, which no specific costs related to law such as paying money for staying outside the jails, attorney fees, and other services like DNA examination, some cases were spent 500-700\$. This fee should specified for the public to get together.

(4) Problem of workload, there are many cases happened every day, and expert forensic police or forensic physicians have only in the city. So the process of the forensic science is very slow. There is no specific duty of police that is why no

balance of work practice and could not reach the goals as expected since one practitioner loads many cases at the same time.

(5) Evident collection, in fact lacking of standard process and could not analyze in inquiry investigation. The knowledge and experiences of forensic police officers are still limited, so could not collect enough evidence for getting into justice system. Some practitioners could not collect all related evidence for inquiry step, not only document evidence, but also witness that's caused some cases were required to restart. Those cases are delayed of trial at the court.

2. External Environmental Evaluation

External evaluation could be found opportunities and threads of forensic science within Department of Scientific Technical Police which effect from economic, society, political, science and technology ect...To develop forensic science both national and foreign countries, they have to grow politics, economic, budget, fund and social environment such as education, per cent of people who have knowledge, tradition, customs, values, beliefs and culture. Political environment contains of Code Procedure, rule of law, man of law and technological improvement, in which refer to modern technology and improve forensic tools that could help to provide more efficiency in evident collection, evident examination and autopsy.

- Opportunity is an analysis the external factor of an organization, factors impact to benefits both direct and indirect way for developing the forensic science in order to get more efficient and stronger than before.

(1) The United Nations pays attention to access to justice, which forensic science development is a part of reaching the justice, especially the poor should be provided the justice for all to reduce discrimination. Besides this, other countries give the importance and support forensic science since forensic evidence could not be changeable, that provide the justice for the public and try to adjust, develop, including to standard forensic science.

(2) Since technology has been improved effect to communication media and database development in order to process forensic science rapidly, conveniently, and efficiently, the public could reach and search the data and the truth. It is resource of knowledge to reach and learn. When there is a modern database and could help to forensic police, various governmental agencies and other data related to forensic

science process until getting successful in evident collection, evident examination and autopsy.

(3) State policy in reducing discrimination and help the poor, trends to anti-corruption and enhance the justice which it is a main state policy of Ministry of Justice and related agencies in justice system process including to making all the public reliable and believe in.

(4) Local community participates and there are more volunteers from local and NGOs to help the public more and more, so it becomes a network in forensic process for receiving the justice, creating the awareness and protecting the service users.

- Thread is an analysis the impact of an organization both direct and indirect way of forensic science and as a thread disturbs not achieve the objectives, in which persons who have related roles such as government officers, or organization have to avoid or adjust the organization stronger as following:

(1) Global economic has changed remarkably, so it is hard for living. There are a lot of filed cases and complexity trends, especially in criminal one and law and Procedure Code that have long penalty since current situation is more complicated than the past. These could be concluded that it is very hard for justice process as forensic science.

(2) Trends for free marketing and business within ASEAN member countries. It is a problem when AEC opens, and foreigners flow to run business in Cambodia both Europe and Asia, especially near border countries such as Vietnam and Laos, and Thailand who come to live in Cambodia. This is reason why the government sets the policy for providing the service to all people without discrimination. In short, a number of cases would be increased by year to year, so many inquiry officials, forensic police, forensic physicians, and other related government officials. This mean, all foreigners could come and use governmental services any time the same to Cambodian citizens.

(3) Freedom to know the news, aware of other rights of the public, self-value saving is better than before without discrimination.

(4) Other organizations within justice system process and administrative section is still lacking of awareness and participation such as seeking quality

prosecutors or attorney even finding. Hiring is still a problem of bailing out at the court and other proceedings are still facing with problems as deserve.

(5) Income of Department of Scientific Technical Police is supported only from the government. There is a little support from other countries and NGOs, so budget for giving to forensic police to practice at the provinces or buying forensic tools are still limited. However, Department of Scientific Technical Police is necessary to find fund from other sources for supporting within department.

(6) Since ACE is opened that's why criminal could go one of ten countries freely, so it is hard to arrest the criminal easily.

3. Situation from Environmental Evaluation

From this study, the data related to strength-weakness, opportunity-threat, internal and external analysis by evaluating external and internal environment, researcher brings strength-weakness to compare with opportunity-threat from outside the organization in order to know that how forensic science is processed in Cambodia, when there is such a problem, how board of commission or forensic police should resolve. In general, SWOT analysis on forensic science development of Cambodia is divided into 4 parts as following:

(1) First situation (strength-opportunity) is a good factor which executives should set aggressive strategy for bringing strengths to promote and adjust for developing forensic science in Cambodia.

(2) Second situation (weakness-threat): Generally this situation is the worst one since the organization is facing with external problems and a lot of internal weaknesses. Therefore, the best choice is defensive strategy to try to reduce or avoid various threads that would happen, and measurement for making an organization getting the least failure.

(3) Third situation (weakness-opportunity): This kind of situation, the organization gets competitive advantages, but there is a problem of weaknesses, too. So, the resolution is turnaround-oriented strategy to manage or work weakness out for receiving the opportunity.

(4) Forth situation (strength-thread): This problem happens when environment is not convenient for work process, but the organization has plenty of advantages, but replacement of this, have to wait until the environment has changed. It

would be chosen a diversification strategy for using the benefits from strengths to create other opportunities.

The result of SWOT has been found after researcher had asked the respondents as mentioned in Chapter III. Researcher analyzed in order to develop the forensic science whether how we can develop by using strategic way. The following table is showing about SWOT in forensic institution in Cambodia.

SWOT analysis is analyzed after researcher had asked the respondents in Cambodia. Researcher analyzed in order to develop the forensic science whether how we can development by using strategic way. The SWOT analysis would rise about strength, opportunities of first part for reaching the forensic science in Cambodia to find the strength and opportunities for an organization. After finding the strength and get benefits from the environmental opportunities and can set the strategic development to overcome the obstacles or reduce the weakness of negative factors to forensic science process under SWOT analysis, so it would be analyzed both external and internal environment and externality of an organization as following:

Table 4.2 SWOT Analysis

Strength	Opportunities	Process
1. Training course on forensic science for three months every year	1.Norway supports budgets and trainers every once a year lasts three months	1. Prepare to have long course for forensic police, and also set study program at universities in Cambodia.
2.International Cooperation with NGOs such as Cambodian Mine Action Center to develop EOD crime scene	2.NGOs supports some forensic tools such forensic powder, fuming box, crime scene forensic kit, and Bluestar forensic and so on.	2. Development the database, improvement of forensic tools related to forensic science in Cambodia.

Table 4.2 SWOT Analysis (cont.)

Strength	Opportunities	Process
3. Provident scholarship for forensic police once a year.	3. Skillful forensic police come to work at Department of Scientific Technical Police	3. Correction of forensic police system since some police who graduated from other countries did work direct skill learnt.
5. There is knowledge system and training course for forensic police yearly for both general work process and principle process where are necessary for forensic work.	5. From survey from respondents, forensic science is a part of justice system for getting into the trial in order to reducing the delay of case, besides this, other countries are trying to adjust its forensic science to become standardized one for helping police work and providing the justice for the public	5. Forensic specialists are invited to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.
6. Strategic Plan set up and draft for evident collection, crime scene search and autopsy to become a real practice.	6. Local community had participated as well as volunteered for collecting the evidence at the crime scene, at the same time NGOs also helps in case of bombing called CMAC (Cambodian Mine Action Center)	6. Plan and draft are used for collecting the evidence and the participations from the public for other processes related to forensic science in Cambodia.

Second part was analyzed about weaknesses and threads mostly focus on the most gangrenous situation of forensic science since the organization is facing with external problem and obstacles and weaknesses, so the most important strategy is defensive strategy in order to reduce the problems, which supposed to happen including to what could make the organization get the least loss. Some weaknesses are from other reasons such as forensic science books are in English, technical words using, and Khmer documents, there were not much less units.

Table 4.2 SWOT Analysis (cont.)

Weaknesses	Threads	Process
1. A process of evident collection is still slow and there are many points are to adjust for better forensic science	1. Economic and social situations are changed, that's why impact to the standard of living, work, and a lot of complaints, especially many laws are enacted.	1. Survey the obstacles in forensic science process that happened from other agencies, specifically the cause happened because of delaying related to technical process and concerning principles such as failure from fact examination, and evidence collection and manage handbook for better work and reduce the delay of work practice.
2. Work security is still the main problems since forensic police moved to work other places when they new jobs, never come to work at office or work for private companies, and so on.	2. Impact to investment sectors that foreign investors come to do business in Cambodia, and they might unsecure to make the investment.	2. Coordinate with schools, mainly forensic science institute to manage students come to do an internship for receiving the experiences related to forensic science or forensic police who got scholarship, must come and work at Department of Scientific Technical Police, Ministry of Justice.

Table 4.2 SWOT Analysis (cont.)

Weaknesses	Threads	Process
3. Structural Problem, there is no forensic police at the provinces but city.	3. Income is from government, so budget support from government is a little for police to work at countryside.	3. Try to find forensic technology to help in police work such as evident examination, and autopsy and so on.
4. There is not enough forensic police and have only in the city.	4. A number of cases increased every day, so probably 125 forensic police all over Cambodia are not covered a quantity of crimes.	4. Trying to use technology to help is a important way since we could one forensic police or forensic scientist for one crime, so we could reduce personnel for going to the crime scene, however forensic police are necessary to apply as much as possible for forensic work nowadays.

For third part is weaknesses and opportunities are good points for an organization to proceed and receive the advantages for challenges, but still face with weaknesses, too. The resolution is that turnaround-oriented strategy to destroy or resolve internal weaknesses and getting opportunities.

Table 4.2 SWOT Analysis (cont.)

Weaknesses	Opportunities	Process
1. A process of evident collection is still slow and there are many points are to adjust for better forensic science	1. From survey from respondents, forensic science is a part of justice system for getting into the trial in order to reducing the delay of case, besides this, other countries are trying to adjust its forensic science to become standardized one for helping police work and providing the justice for the public	1. Manage to find clear consideration on evident collection and evident examination.

Table 4.2 SWOT Analysis (cont.)

Weaknesses	Opportunities	Process
2. Work security is still the main problems since forensic police moved to work other places when they new jobs, never come to work at office or work for private companies, and so on.	2. Technology had been developed and improved to develop database for evident collection and evident examination to Department of Scientific Technical Police for getting more efficient related to forensic science. The forensic police are also easy for working and no need to spend much to find the truth.	2. Manage e-learning for forensic police who could come and study easily about how to collect and examine the evidence correctly in the future.
3. Structural Problem, there is no forensic police at the provinces but city.	3. Local community had participated as well as volunteered for collecting the evidence at the crime scene, at the same time NGOs also helps in case of bombing called CMAC (Cambodian Mine Action Center)	3. Trying to find empowerment and the public participation
4. The public participation for collection and examination the evidence as well as crime scene controlling is still the problem.	4. The public participation increases trough volunteered system to help in police work, for example: crime scene control before justice police arrived and so on.	4. Allow the public to participate with police, that, useful to be witness and get the clues for arresting the offenders.

For forth part is about strength and threads. It happened from inconvenient environment to forensic science, but an organization had its own strengths, so it could be used diversification strategy.

Table 4.2 SWOT Analysis (cont.)

Strength	Threads	Process
1. There is knowledge system and training course for forensic police yearly for both general work process and principle process.	1. Economic and social situations are changed, that’s why impact to the standard of living, work, and a lot of complaints, and laws are enacted.	1. Manage e-learning for forensic police who could come and study easily about how to collect and examine the evidence correctly in the future.
2. Forensic police very hard work, industrious, helpful their colleagues with a little budget and lack of forensic tool and could work even go to other provinces	2. Impact to investment sectors that foreign investors come to do business in Cambodia, and they might unsecure to make the investment.	2. Set the policy for helping the foreign investors if they have problems and hurry to process the cases first before preceding the local cases since it had many benefits for the country.
Strength	Threads	Process
3. There is knowledge system and training course for forensic police yearly for both general work process and principle process where are necessary for forensic work	3. Other agencies concerning with forensic science is still lack of knowledge related to evident collection, evident examination and crime scene control.	3. Forensic specialists are invited to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.

Table 4.2 SWOT Analysis (cont.)

Strength	Threads	Process
4. Strategic Plan set up and draft for evident collection, crime scene search and autopsy to become a real practice.	4. Income is from government, so budget support from government is a little for police to work at countryside.	4. Prepare the plan for funding on order to support for transportation, buying forensic tools and something convenient for forensic work.

4.2 Problems, Condition and Obstacle Factors

4.2.1 General Condition

Since there are not enough forensic police officers at Department of Scientific Technical Police, Cambodia has approximately 145 officers all over Cambodia. Police officers do not have only responded for evidence collection, evidence examination or arrest the offenders, but also keep the peace the public within country. Police officers function to protect and give the warmness for the public including crime protection and suppression, criminal justice enhancing, keeping the peace for lives and properties of the public and so on. Police is a big organization where always has the problems of organization management-that's why police officers could not follow all the tasks provided efficiently. Problems of compensation welfare conclude various sources that are necessary for work practice, in which considered as important problems in body strength, emotional strength and duty functioning of police officers, especially evidence collective police officers. They do not have enough tools, and modern instruments in duty functioning, budgets and not forensic police lecturers, money support from royal government and other agencies are not appropriate with real situation that police officers need to use them, and low salary that is the main problems affected to standard of living in Cambodia. If comparing to Thai police or other countries in ASEAN members, Cambodian police officer get very low salary with hard work. In Cambodia, there is no forensic science academic at the

university or institutes as bachelor or master degrees, so a number of forensic police officers are not enough including police officers are sent to study at abroad.

From the mentioned problems, opposite way in the real society, the public would like police to work with transparency, no any corruption, focus on providing good service for the public, no discrimination, and police have to follow all disciplines or rules. For opinions of police officers understand that the public's perspectives think negatively too much about police, Cambodian people and whole society expect too high about police's capacity in reality. The differences between reality that police existing now with expectation of society and people as mentioned above, so must rush to process, study, and resolve the problems what police unit needs including the problems of budget, compensation welfare or instrumental weapons such necessary tools are not enough for work practice because the mentioned problems make forensic police and police officers inefficient in evidence collection and evidence examination responsibilities. It is also a risk or empty space to find the benefits by unlawful actions or corruption, in which affect to police organization in people management efficiently, and to justice process in criminal justice enhancing, and finally negative images come to police unit. Cambodian people do not strongly believe in criminal justice providing organization, especially evidence collection and evidence examination of inquiry officials in any case.

4.2.2 Problems of Police Personnel

1) Problems of investigative failure and inquiry data from checking of prosecutors, cases, General Commissariat of National Police, Ministry of Interior also found the failures with investigation and inquiry data such as being lack of case models and strict work practice in practitioner turn. When there is a crime happens, they are not in a hurry to go to protect and maintain the crime scene, but let patrol police goes first, and some cases are not informed the specialists to go and so on. Division of investigative police officers and inquiry officials makes the work not smooth and there is no central center for collecting the data clearly. Both parties are waiting for each other to get the evidence from.

The term "failure" referred "not completed to deserve", so defect or disability such as failed work, the phrase to say that failure in inquiry and investigative

data collecting, in which focuses on incomplete data collection. The causes of failed data collection could be included as following:

(1) not aware of law likely an institution, criminal law, criminal procedure code, civil procedure code, rules, regulations, orders including to agreements with other agencies, too.

(2) Laziness such as case evidence collection, witness tracing, result of examination, not following rules of laws enacted in an institution.

(3) Not pay attention for human rights such as victim's rights, suspect's rights, witness's rights include to the public.

(4) Corruption-not aware of inquiry officials' ethic, suspect, signature of governmental letters for contacting with other agencies, proof checking, typing, and reading and so forth.

2) Problems of knowledge, understanding of police officers concerning with evidence collection, especially in the issue of crime scene check found that police officers do not know the importance of crime scene protection and maintaining. It is the most important because crime scene is the first area to investigate, a source where has evidence the most, and could be considered as initial point of justice process, but many cases presented that lack of well-protected and maintained crime scene. There are a lot of outsiders go to destroy both intentionally and unintentionally. There is still a problem of Police Line that Cambodia does not always use it and effective enough. So far, crime scene is destroyed by various people both police officers themselves do not pay attention for those cases, not see the importance of crime scene and evidence at crime scene or do not have knowledge of forensic science including to community who go to take a picture to issue the news, post in Facebook or social media that do not think about destruction the evidence at the crime scene.

Furthermore, related officers do not care of evidence unless found out the problems, and then come to care of evidence, so sometimes evidence changes the shape or loss such as a case of traffic accident at Veng Sreng street while accident happened, someone brought the car out, if there is no any scratch the color of the car, police officer is hard to find the evidence to examine. Besides this, there are other problems of new graduation inquiry officials who do not have work experiences, evident collection, whereas long-year experienced inquiry officials do not wish to find

new knowledge concerning with crime scene examination and evident collection, that might cause the failure of evident collection and evident examination.

3) Problems of emotional strength lacking and improvement of royal governmental officials. In the years, inquiry officials are filed very often, this is reason that makes as inquiry officials worried and do not want to be the mentioned position.

In the present day, prosecutor is very strong because there is a code of institution supported makes nowadays no one wants to be an inquiry official. If they have a chance, they may change the position to be other ones and sometimes senior commanders or head of office does not come to control the work practice. Some of inquiry officials already changed the positions to do such traffic police because they do not want to stay in risk, and the most important is that inquiry officials have a little budget for work fields if comparing to responsible works.

If there is a case happened in the provinces or suburbs where inquiry officials have to go in urgent, so they have to pay the money by themselves for all kinds of transportation and residences first, and then they will be paid latter. However, one police officer told researcher seriously that sometimes they get paid back less than the budget that they spent in advance. This is the main problem happens in almost every police station. Researcher made an interview with inquiry officials, he seriously talked with researcher that his family does not want him to do such mentioned position above since he spends too much time with high responsibilities, but opposite way, he gets very low compensation, in what cannot support family to live happily.

Nowadays police officers escape from this position to do other positions such as suppression, traffic, immigration check point or something else.

4) Lack of inquiry and investigative officers found that a quantity of inquiry and investigative officials are not still enough and suitable to such many cases caused. For lack of inquiry officials, inquiry officials could make efficiently, should provide them only 50 cases per person a year, but true situation in Cambodia, they received the files of complaint about 150 cases for one person a year. It affects to be unable to finish in time for the case of no inquiry officials in the fields of inquiry found that still lack of specialized inquiry officials in crime scene examination and specialists for evident examination at every field even forensic physicians and forensic scientists are still less in Cambodia. As survey and interview forensic physicians are

from ministry of health do not have specific skill for evident examination even forensic tools. May researcher gives an example, when forensic physicians are required to perform the autopsy, they always use normal knives to cut and see by their eyes. This is can be concluded that the efficiency of autopsy process and quality, we can say “Not reach standard” yet in Cambodia. In fact, Cambodia forensic physicians have to be appointed by ministry of health and recognized by ministry of interior where police officers can trust in. For quantity of in inquiry field is not much for any operation and not enough for a number of cases caused nowadays, especially an office of forensic expertise is still lack of specialists for crime scene examination, physic evident examination, chemistry, and biology, but there are some cases need to be examined almost every day. Apart from this, still spend the time for being a witness at the court of various cases caused some cases are delayed.

5) Lack of forensic doctors: whereas forensic physicians have to travel for performing the autopsy referring to code of criminal procedure found that those physicians have a little quantity even though the law allow to bring doctors both from private and public hospitals, but there are some problems such as doctor is busy to cure the patient's, doctor needs to relax for tomorrow work or female doctors could not be able to go out far and perform the autopsy at night and so on. The most worried things are that at the provinces (nearly all the provinces in Cambodia), there is no forensic doctors, that is why caused the crime scene examination is not accordance with the law and can be lack of complete evidence, moreover, the court can dismiss the cases if there is not enough evidence as mentioned. There are not enough forensic doctors at Department of Scientific Technical Police, Ministry of Interior. There is only in Ministry of Health and private hospitals more than Ministry of Interior. As the evidence, there is no forensic tool for forensic doctors at the Ministry of health and public hospitals, as must spend much money for one case to perform the autopsy.

For forensic physicians who respond for autopsy performing, they do not have any forensic instruments besides normal knives to cut. One doctor, who is working at Department of Hospital Services, Ministry of Health explained that:

“There is less quantity of forensic doctors who can perform the autopsy. Moreover, those doctors must be witnesses at the court, too. So there is lack of

pharmacists and scientists to examine the evidence where get from autopsy performing”.

6) Problems of not paying attention or interest from senior commanders, evident collection even though in charge inquiry officials. However, every position of high commanders functions to take care inquiry officials to be deserved in order to get efficient and successful in goals. Besides some of practitioners, some under-power police officers must be wise, knowledgeable, skillful, and experienced including virtual and ethic. And commanders function to introduce, order, define the guidelines, and be fair with under-power police officers to complete the public’s demands.

7) Problems of pressure from society: famous private prosecutor mentioned that “disadvantages of police officers are pressured from society so that the work could not do smoothly”, should not believe in defendant or suspect confess because when trial process at judge or court, the mentioned people could change their words by many reasons and so on. Thus, forensic evidence cannot be changed, replaced or anything-the most important thing. For example, in case of one businessman who killed his lawful wife and then threw at the waterfall in Pich Nil province, Cambodia. At that time, he might confess that he was a criminal, prosecutor must hurry to take a complaint, otherwise, he went to meet lawyer if prosecutor keeps him longer time, he may change his words because it is very severe penalty. However, if the suspect rejects to commit at the court, and inquiry officials do not have enough evidence to appeal, so must release the suspect temporarily through the law enacted. In case, inquiry officials have enough evidence; they can identify to find that criminal, the mentioned suspect is a real offender.

4.2.3 Lack of National Strategy & Planning

It was patently clear at every interview with the judicial police and the courts, that coordination of effort between central headquarters and the Provinces is minimal at best. There appears to be system where money for provincial offices of both the police (MOI) and the courts (MOJ) is distributed via the provincial Governors and is then allocated from there. Corruption and political affiliation also influence this process. Lack of funds at both central and Provincial levels means an ‘unofficial’ system of

cross charging takes place with forensic examination not occurring due to lack of funds.

4.2.4 Lack of Management, Supervision & “Self-starting”

This is a significant problem but more so centrally than provincially in regard to Department of Scientific Technical Police. There is no evident understanding or motivation toward improving their situation through sharing resources or diluting the boundaries between the very rigid divisions that have established between the various forensic disciplines. In some provinces, where Phase I had a presence, there is some cooperative spirit and effort between the areas. This was not really evident in other provinces. Centrally there appears to be little work although samples are referred from Provinces. It seems that Phnom Penh police do most crime scene work around the Capital, with the central Moi Department of Scientific Technical Police group being called for ‘major crime’ only.

4.2.5 Problems of Forensic Technologies for Collecting and Examining the Evidence

1) Lack of transportation and forensic instruments for evident examination found that currently Department of Scientific Technical Police, Ministry of Interior, Cambodia, lack of modern forensic instruments and its necessity to use for evident examination rapidly, correctly and reliably. Besides this, other departments both in the city and at the provinces, still lack of transportation in much quantity. Surely, the important principle is “crime scene because it is a heart of investigation, so when police officer receives the complaint filing, must hurry to go the crime scene as fast as possible and must protect somehow the evidence not be destroyed”. But in practice, most of police stations at the provinces in Cambodia are lack of cars for going to crime scene in time or some stations have only car that has been used for 10-20 years already so that some cases police officers must go to the crime scene by their own motorcycles for examining the crime scene.

2) Lack of modern technologies in data examination and database administration: In the present day, Ministry of Interior has finger print examination by identity card system, in which the mentioned system cannot connect with police

computer, so that check the identity card in computer could not examine online. The mentioned action caused the problems so much because police officers do not register alien correctly, so it is the problem and obstacle to investigation in order to evidence collection.

3) Lack of modern forensic instruments and comparing to foreign countries such as Atomic Absorption Spectrophotometry (AA) that used for gun examination, but the time is limited from soot collecting still alive only 6 hours. In the present day, where foreign countries are using Scanning Electron Microscope (SEM) that is detailed and more modern. DNA is very important tool nowadays, but in Cambodia sadly to say that there is no DNA for work practice including CCTV that could use as vital evidence efficiently. There are only private companies and houses that have CCTV. When needed to use DNA, Cambodian police officers always send to Thailand or Vietnam, and must spend about \$500-\$700 per case. So there is a little case that uses DNA.

4.2.6 Problem of Law

1) Power using of inquiry officials for balance using for evident collection is too much, function of evident collection of inquiry officials or police officers. Whereas, the consideration evidence that collected from inquiry is the function of prosecutor and measure the evidence of litigants that get from inquiry is the function of judge. This could not deny to say that evident collection is the most difficult one, in which the function of inquiry officials or specialists concerning with investigation. The problem of power using of inquiry officials in balance of evident collection, can cause them not to go to check because they are forgetful, lazy, careless, or intentional act, so must consider that the law authorizes for inquiry officials too much or not in evident collection, and police officers who participate to examine the crime scene should have power to express their opinions or suggestions related to evident collection in cases or not.

2) Evident using from polygraph in order to find the quality of suspect. In the case that could not collect the evidence from other environments, the court gives the importance of polygraph less than other biological evidence such as fingerprint or DNA. The mentioned problems, one private prosecutor explained that in the case of

bringing the suspect to get into polygraph for checking, mostly it is used when inquiry officials have no various evidence to confirm and important case such a murder like Mr. Chea Vichea (Famous Unionist in Cambodia). If the result is issued in negative, sometimes inquiry officials do not put into filing folder. If the result is positive, it will be put into inquiry folder in order to be as data for presenting in the court, in which it is not the correct that inquiry do not bring to the court whether it is negative or positive result, inquiry officials should present at the court everything. For evident collection at the investigative step is a direct process of inquiry officials, so evident collection of inquiry officials not only recognize the offenders and examine to find the offense but also evidence can be examined to find the purity of suspect.

3) Today the jurisdiction process still gives the importance of witness more than material evidence, in which witness can show the truth, hide the truth, graft, recant to the court sometimes and can hire unreal witness, but forensic evidence, no one can change, create or make a fake as reality if crime scene procedure, evident collection and polyline control the evidence correctly through procedure of the law.

4) Power of searching and various data requesting of inquiry officials such as cannot ask to see data of phone using in rush, ask to check the financial statements of suspect is delayed and less cooperation. For years, inquiry officials use their own relationship for asking to see the above various data. Sometimes inquiry officials ask to see, but it is denied, and sometimes cannot see the whole or sometimes too late to arrest the offenders.

5) Investigation of plaintiff in criminal case that plaintiff always needs to investigate and have a chance to present the evidence only time for making the court believe that defendant is the offender. After that, the jurisdiction process in Cambodia, defendant has opportunity, so if the first presentation and have some suspected points. That's a problem. There is no chance for plaintiff to reform again and whereas the judgment at the court, asking the question questions between case considerations, good forensic questions can be asked by professional lawyers, in which sometimes not attack to questions, but attack to witnesses themselves.

4.2.7 Problems of Other Agencies or Organizations

1) Problems of showing how to maintain and examine the evidence, problems of showing how to collect and examine some kinds of evidence to let outsiders or the public know. It is the main problems to be considered that it is good or not. We should think that what we have to act not to fail the case and police work in the future because it is not good the model of case and makes the offenders aware of work police, in which it is easy for them to commit the next crime. This makes the police hard to work and offenders are aware that what police are going to do or put the tray, so they try to find the way to protect themselves or try to destroy the most important evidence. As had seen in the previous cases, the criminals used the helmets, shocks, or gloves in order to avoid arresting by examining that evidence through fingerprint or videos.

2) Lack of cooperation from witnesses for providing the data as benefits to evidence collection in participating the case during meeting. Police general of Takeo province (one of provinces in Cambodia, it is researcher's hometown near Cambodia-Vietnam border) tells his experiences while he was sent to work far away from his home. The faults are found that crime committing, killing others, violent killing such as burn, cut the neck, arson the community's house. Those offenders committed the crime for money robbing, taking a revenge, business conflict, conflicts of interest, and others.

The strategies of offenders make the public not believes in government and the other images of crimes are that, they are addicted the drugs so that they could not control their attitude and actions. Sometimes they would also kill their parents or closest relatives when they asked them for money, but rejected by their relatives. This act is unlawful; disobey the code of administrative procedure, criminal act, and way to collect the evidence. In the years, those cases caused without seeing by someone, so there is no eyewitness, and also a severe case, in which there is no one to be witness because they thought that they would face the problems witnesses themselves or their families. However, sometimes wording of witness can be suspected by the court if they give the answer not clear enough. So the court can cancel the case because the real case and word are not relevant likely eyewitness can tell clearly about route of

criminal, the court believes that witness should see clearly because sometimes crime scene is hidden or shoot at dark place also cannot see the offenders' faces exactly.

The most important thing is that we cannot arrest the offender or release the witness so that lack of witness to say the truth at the court. One speaker told researcher that

“I used to be an inquiry official and there was a case of weapon explosion at the market, but surprisingly “there was no anyone who dared to become a witness. Sometimes, when inquiry officials ask the witness, they said that they saw the criminals but later they changed their not seeing any action of shooting, so it is very difficult problems to arrest the offenders or collect the enough evidence” he explained”.

3) Lack of exchange meeting with inquiry officials and related agencies in the justice system such as court, or prosecutors in order to analyze the cases or review the successful cases and failed cases altogether. Lack of exchange seminars among practitioners such as court, prosecutor, forensic physicians, and investigative section and inquiry officials so that they cannot know the lesson that had failed or threads in each section.

In the present day when the court dismisses the file, the prosecutor tells police that “case is dismissed”, but they do not know why the case is dismissed or what makes that case not passed in the court. Thus, it is quite hard for inquiry officials to be aware of cause of case failure. Normally, the court dismissed the case because crime scene searching and not enough evidence.

4) Problem of coordinating among related agencies concerning with evidence such as sending the dead body to hospital for performing, but in Cambodia there is such a service as researcher had mentioned about that most of forensic physicians just used their small knives to cut any part of body for examining by eyes (without technological tools), and the left parts leave at the same place if there is one dead body lying the field or something and collect soot of gun. Sometimes forensic doctors in the public hospital are lack of knowledge about forensic science likely autopsy. They do not know where they have to collect and whom they are going to send to, that's faces with the problem of coordination with each other. Some kinds of evidence are sent, some of inquiry officials do not accept because they do not

understand or have the knowledge of forensic science whether they should keep that evidence or not. Whereas police officer keep only evidence where get the suspect, and they do not collect from the victims or related persons so that it is hard to analyze the result of evidence examination of examiner or that case could be completed such a death case. Only suspect is sent to check DNA, but related people or surrounded ones would not be sent.

4.2.8 Problems of Budget

1) Compensation of scientists is not equal with inquiry officials or agencies since the responsibilities are quite similar such as crime scene search, evident collection, evident examination and witness at the court. It can be concluded that there are many responsibilities. Some cases can face with health problems such as crime scene search in arson or bombing and so on. It is the reason that they are lack of encouragement for working.

2) Department of Scientific Technical Police under Ministry of Interior is lack of budget support. It happens almost every institution in Cambodia where does not have budget for working. However, that department is supported a little money for working practice or field work. One forensic police officer at that department told researcher that any time when they go to work at the provinces, sometimes they use their own money for filling the petrol. This problem is important for making the work successful. It is very simple that police officers cannot without budget for support annually.

3) Problem of unequal compensation between inquiry officials and DSI investigators. DSI always get much paid even they are responsible less case. Moreover, the cases that DSI can do, it does not mean inquiry officials or police officer cannot do. What it is not equal is that the public pays for tax the same, but they have problems, they would find the nearest police stations for making the complaints. From day to day, a number of case increase all the time, so inquiry officials of national police have many duties to do more than DSI. For this case, researcher would like to clarify that there is no Department of Special Investigation like in Thailand as example, but police themselves act as DSI like a specialist groups for special cases.

4) The problem of supporting special money for investigative officers since they have to pay for many things for arresting the offenders such as travelling, foods, residence and news tracing. In the past years, there were many cases related to burglary. Normally police officer keeps the fingerprint of theft by AFIS system or power, forensic machine bumbing until recognize the villains where they have lived, but opposite way, there is no any officer travels to arrest.

4.3 Strategic Development of Forensic Science

In order to develop the forensic science in Cambodia, many experts of forensic science and academicians in Cambodia had told about how to improve the forensic science efficiently such as technology, academic study of forensic police, forensic police, training, providing the scholarship, exchange program with other countries, research institution and co-research with other countries especially ASEAN member countries, and law enforcement.

4.3.1 Technology

Eventually forensic science is necessary to use technology to help in justice process. Technology plays important roles in collect evidence and evident examination. One police officer said government should invest the technology for forensic science because it is easy to apply for it. This is number one if comparing other factors since nowadays the government does not care much about technology that is necessary for examining the evidence. So far all processes of autopsy and evident examination are adapted to use by people, so the quality and trust is still limited both justice and the truth. In the present day, technology plays very vital action for every sector not even forensic science, but most of cases on the trial process failed since the evidence is not enough, not reliable, not trustful, and some cases, the witness changed their speeches when on trial.

For this technological factor, government should exchange technology development with other countries, as well as ASEAN member countries because technology changes from day to day very fast. Crime has been updated, so technology must be updated, and also the process of evident collect and evident examination. To

avoid the case is rejected, forensic tool can help so since the results of examination cannot be denied or refused. Not only Cambodia, but also all over the world is recognized the result that indicated by forensic tools. For example, the crime happens in Cambodia, but the evidence is examined in U.S.A, but the result is still recognized since it cannot be changed the truth as witness.

4.3.2 Exchange Program

For every sector all over the world, especially the sector of forensic development, the government nowadays tries to send governmental officers to study abroad every year. Some countries have signed MOU, and some not yet. However, they understand and allow Cambodian police officers to get education from abroad even long or short course of training. This is very important field of forensic development in Cambodia. On the other hand, the term “exchange” does not mean only Cambodia goes to study at other countries but also those can come to share experiences related to forensic science development, forensic tool, and technology use for helping in forensic work and so on. In this mean, since Cambodia is one of countries where has just recognized and accepted the importance of forensic science to support at the court trial, so the experiences for sharing to other countries seem not much. However, all forensic police officers are happy to learn and get training from experienced or experts forensic scientists from developed countries. Recently, at the Ministry of Interior is supported from Norway for preparing the short course in order to train about forensic science development every year and take three months periods to finish the course.

In short, this is not enough for strategic development of forensic science in Cambodia, so the government should send forensic police to study full-time course around two or three years at other countries. For instance, in middle of 2015 the president of Police Academy of Cambodia (PAC) and his delegates visited at Faculty of Forensic Science, Royal Police Cadet Academy (RPCA), Thailand for signing MOU with each other, but still not official one. However, PAC had sent four Cambodian police cadets to study police science at RPCA for five years. During that time, the president had spent short minutes to talk with a representative of dean of faculty of forensic science, RPCA for exchanging training course for two years

scholarship to Cambodian forensic police. Researcher also joined, and thought that it is very important to develop forensic science in Cambodia. In addition, for those who get education of forensic science from abroad, researcher recommends to the government sets them into correct skills or experts since so far they worked with different practice from learning so that the efficiency of forensic science in Cambodia is still in a low level.

For that term, between Cambodia and Thailand are to exchange the practitioners, forensic staffs, teachers, students, and other special programs with Faculty of Forensic Science, Royal Police Cadet Academy (RPCA). It is very good chance for both countries, especially Cambodia for learning from Thailand concerning with forensic science. In order to achieve that goal, Cambodia must be ready for language and strengthening knowledge to competition. As we have known Thai people are not so common to speak English, so if possible we should learn Thai language in some parts before sending those who are going to join the exchange program, study tour, short course training or something else even the course is conducted by English. Exchange program has various meanings for such a development of forensic science in Cambodia. Researcher is happy to send the messages from interviewees in Cambodia about how to develop the forensic science quickly by the mentioned ones.

4.3.3 Research Institute

One sector can be developed because of research. Research institute is very important for current society even Cambodia does not pay attention on research. The term “research” has broaden meaning such as research for reasons, research for the causes, future research, research for development, research for circus, research for better work or research for SWOPT for strategic development in case of company and state institutions. For a development of crime in Cambodia happened every day and most of the cases are lack of evidence, as well as forensic evidence. So this is can be concluded that Ministry of Interior should have its own research institute under the ministry focus on forensic research, development of evident collection, evident examination, crime scene investigation and so on.

For this request, after research institute happens under the Ministry of Interior, Cambodia, many police officers have to research for development due to

crime also develop from day to day. Just take one example in Thailand, all the police teachers of forensic science or other fields within police science for helping evident collection and evident examination. To become associate or professor in government status must rely on research achievements, like one 2-3 topics for researches. Since Cambodia still uses old procedures for all processes of evident collection, crime scene investigation, when there are new research achievements, they may change the mindset for better forensic science in Cambodia.

Recently, researcher had met the president of Royal Academy of Cambodia and his delegates, they said they would build a research institute within an academy. This is very important starting point of many cadets have chance to research while they are learning.

4.3.4 Law Enforcement

For forensic science in Cambodia, law is also important to adapt the modern society now. Government should update the law to appropriate with new technology since now in Cambodia does not have the law to accept only forensic science yet. Thus, police officers are hard to work for collecting the evidence.

Law is very essential for helping in power using of police officers because sometimes when there is a crime happens, normal police officers have to inform the specialist or forensic police for protection the crime scene. That is why the case might be delayed, and some evidence might lose by someone destroys it. If the law allows all police officers have authorities to collect the evidence or crime scene by themselves without permission or assignment, the case should have finished faster and can be provide the justice in time.

Other means, the law can enact that all justice police have to learn the forensic science even much or less according the responsibilities.

Researcher made interview with forensic doctors at ministry of health, department of health service, and an attorney (President of Cambodian Defenders Project) said the same things that before they already drafted the law about forensic science where spread every province all over the Cambodia. That is an independent forensic science at the provinces. However, it is a NGOs, not under government

control, so that project was cancelled. And nowadays forensic science has only at Department of Scientific Technical Police, ministry of interior.

For making the case finished faster, forensic science should have all over province in Cambodia since we have much money to travel if there is forensic police only in the province, spend much time, and not enough forensic police and so on. Thus, the law should rise about everyone who has knowledge related to forensic science as well as private or public doctors who passed the certificate to come for helping in forensic science in Cambodia. This can help many things for development of forensic science in Cambodia.

4.3.5 Training

In the Department of Scientific and Technical police is provided training courses from international and national agencies. Project delivered training on the operating procedures and the forensic elements therein has been successful at some levels. Recent attempts to conduct training by the National Police Training Department have been criticized in relation to delivery methods and the materials used. Introduction of elements from other programs such as the Gendarmerie, and the Japanese JICA program was confusing, and diluted the important messages regarding forensic crime scene procedures.

The approach taken to training generally in Phase II is to build training capacity within the sector. The forensic training needs will vary between the central and provincial sections. It is intended that the police adviser and counterparts at the Central S&T will determine what might be regarded as “specialist” forensic training needs to be met by a short term forensic expert. At Provincial locations the level of training required can be met by the police adviser possible supplemented by staff from the Central Office.

Table 4.3 Training

International Training Courses	National Training Course
Japanese International Cooperation Agency (JICA)	National Police
France	Police Academy of Cambodia (PAC)
Thailand (International Law Enforcement, ILEA)	Department of Scientific Technical Police sponsored SBI, ASP, Japan, China, France, they come directly and train.
Forensic Science Institute, Hanoi, Vietnam from 3-6 months	General Expertise Office
China	Working places
Korea	

Note: For international training in China, Vietnam, and Thailand take place every year but Korea. It happens 2 or 3 years for once.

There are three levels of scientific technical police such as national level, provincial level and municipal level. All over Cambodia, there are approximately 700 scientific technical polices, but in the capital city there are around 145 forensic police besides those are in the provincial levels and municipal levels. Just want to clarify that among 700 scientific technical police, there are only more than 100 forensic police. In capital city, there are five expert forensic police (mostly doctors). And there are three levels of experts such as medium level around 50 police officers all over Cambodia. And senior experts, there are about 10-20 police. Then Department of Scientific Technical Police also trains normal police officers to become experts for taking from 3-6 months training. For police officers who were trained to become experts in order to collect the evidence at the crime scene. So all police officers who are not evident examiners, they are responsible for collecting the evidence. In short, there are 600 evidence collective police officers in the provincial and municipal levels, and national level there are about 100 police officer, so in total there are more than 700 police officers who responds for evident examination and evident collection. For training structure, there is training course at the municipal level, long training at abroad, and short courses both national and international training.

4.3.6 Training Needs Analysis

Interactive, adult learning environments are as important for forensic skill transfer and development as they are in general police training. Additionally, the forensic program requires assessment and authorization of skills attainment, from mastery programs with specific competency outcomes. To date this training has been provided from a general policing base and in Phase II it needs to move to a forensic training base in order that meaningful forensic services and support are delivered. The Workshops conducted by the FDS also revealed a need to expand forensic skill transfer down to District level, to improve response times to scenes and thereby support judicial police better across those provinces. It was recognized that at District level the service would be perhaps at a slightly lower level than that provided to date provincially. In practice, this would be achieved through the provision of crime scene kits and cameras which are less complex and expensive but still meet the requirements of professional scene examination and recording. Serious crime scenes that require the provincial level service would be properly preserved by trained District judicial police, until attendance by the Provincial S&T personnel.

Training in the following areas is required:

Field: -Extend forensic skills training down to District level in the Phase I provinces

-Extended evidence collection in support of scene photographic record

-Increased attention on (the possibility of) fingerprint evidence

-Greater questioning of 'witnesses' as to real circumstances/weapon

Position Office: -Greater skills in application/understanding of current and proposed equipment both at central and provincial levels

-Cross-skilling to increase resource management flexibility and assist the removal of the current artificial barriers between disciplines primarily at central level but also provincially.

It is anticipated that these packages can be delivered over short time-frames at appropriate points in the Phase II project schedule. New equipment items should be accompanied by immediate and relatively intensive training but extension areas can be accommodated as needs determine. Such flexibility being consistent with AusAID's requirements for the Phase II program.

4.3.7 Defects

Many countries all over the world always have “defects” for tracing or taking note all processes of forensic science-evident examination, evident collection and autopsy as well in order to make sure that one result is acceptable. However, deputy director of Department of Scientific Technical Police, private attorney, and forensic physician from department of health service had the same explanations that:

“There is no complaint from the public since it is forensic science and technical use”. Not only complaint from the public, but also both parties who do not agree with the results of evident examination or confirmation. Police investigation, if there is complaint from the public; Department of Scientific Technical Police set commission for finding the truth and trust”.

“Very appointment commission, this department selects one member from any office with this department and discussed since the office which is responsible for forensic science is General Expertise Office. However, if there is only one organization like this and no Check Balance same to other countries. This organization would be trusted from the public, and result should be the same before. If comparing to Thailand, they have Check Balance for providing the trust of forensic examination, otherwise there would not be faire if the results of forensic examination is not reliable. However, if there is plaintiff does not agree with results of evident examination, the court would send to other organization such as anti-corruption unit, in which they have forensic police, too. Whereas military police, also have experts of forensic science, but they have small amount, not as big as Department of Scientific Technical Police. So the court would send to other organizations. In case, the court does not send to those organizations, Department of Scientific Technical Police must appointment the commission for any case, which those cases are not acceptable or agreeable from the court or litigate” he continued.

Back to Cambodia, corruption would happen often because of evident collection and evident examination. For instance, one book name “Forensic Survey of Three Memorials explained that:

“There is an extensive “user pays” situation which dominates the provision of services and inter-dependent services in the current Cambodian system, both between and within Ministries. The continuing inadequate salaries and

infrastructure funding drives police, and others within the justice system, to practices that border on corruption, and do not meet the needs of the system itself and the people it aims to serve. Inadequate funding forces agencies within the MOI and MOJ to charge for services within and between the two Ministries” extracted from a book.

Numerous examples of tests, examinations and reports not being provided were related to the FDS. Medical reports that were not furnished or were delayed beyond warrant periods, samples forwarded but never examined/analysed, ammunition samples unable to be processed, were commonplace. It was related to the FDS, that some evidence forwarded from provinces to the Central Department Of Scientific Technical Police area, would cost USD\$50 per ‘request’. That is one question/request would cost USD\$50, with each subsequent request costing an additional USD\$50. The absence of funding to meet such charges usually results in samples not being processed. Often suspects awaiting the outcome of tests are detained in custody and warrant periods have expired. It follows that that individuals are either in custody illegally or released without justice being achieved. Both scenarios are unsatisfactory from the human rights perspective, and from the perspective of community confidence in the justice system. Forensic services as an alternative to confessional evidence, cannot meet the desired human rights objective without a base of reasonable and properly calculated funding to allow testing to occur routinely.

4.3.8 Real National Plan (2014-2019)

In Cambodia, there National Plan called “Strategic Plan of the Cambodian National Police”. The duration of that plan could be 5 years, 3 years, 1 year and 6 months. But here researcher would like to rise is 5 years plan.

4.2.7.1. Good governance: the core of rectangular strategy

Good governance remains at the core of the Rectangular Strategy. Four major reform areas to promote good governance continue to be RGC's priority in its pursuit for achieving sustainable, steady, and equitable socio-economic development, equal opportunity, equality before law, and social justice. These are: (1) fighting corruption; (2) legal and judicial reforms; (3) public administration reforms (including decentralization and deconcentration); and (4) reform of the armed forces. The ultimate objective of the reforms, as well as that of other reform programs including

public financial management reform, land reform, and forestry and fisheries reform, is to strengthen the capacity, efficiency and quality of public services to raise public confidence in government and respond to the needs and aspirations of the people and business community. Major developments that have taken place in these areas are summarised below.

- Fighting Corruption

The Royal Government of Cambodia (RGC) placed high priority on governance and set it as the core of the Rectangular Strategy Phase II, and governance is still the core of the Rectangular Phase III.

The Royal Government of Cambodia in the Fourth Legislature implemented various activities to curb corruption. The National Anti-Corruption Council and Anti-Corruption Unit (ACU) were established, and anti-corruption mechanisms, including rules and regulations, were put in place. The Anti-Corruption Law has been enacted and disseminated to government ministries and other relevant institutions. A focal point in each ministry/institution has been established for coordinating their work with ACU. Declaration of assets and liabilities has been done twice. Together with this, RGC has also set out a public service fee schedule and duration schedule for service provision, which government ministries and institutions are to follow for eliminating loss due to informal payments and other malfunctions within government institutions. During the years 2009 to 2013, Ministry of National Assembly-Senate Relations and Inspection (MONASRI) has promoted policies of Good Governance for promoting economic growth, employment, equity and efficiency. The achievements could be stated in three headings:

First, through its Program on Strengthening National Assembly-Senate Relations, MONASRI disseminated nine priority laws mentioned in NSDP Update 2009-2013, to 83,338 persons (in groups and public meetings) in 197 districts nationwide and answered 9,517 questions.

Second, through its Inspection Program, MONASRI conducted several investigations in public establishments on mismanagement of state property. It also monitored the enforcement of the laws: the Law on Forestry; Law on Fisheries; Law on Drug Control; Land Law; Traffic Law; Law on Management of Private Medical, Paramedical, and Medical Aide Practice; and Law on Environment and Protection of

Natural Resources. The ministry received 203 complaints from the public, of which it investigated 55% and referred the remaining complaints to other concerned public institutions.

Third, through its Program on Strengthening Institutions and Developing Human Resources, 501 staff members of MONASRI (from both, sub-national and national levels) were trained in-country as well as internationally, on various skills such as administration, finance, complaint-handling, human-resource management, and inspection.

Even though significant achievements have been made, MONASRI has still been facing numerous challenges. First, its work results have so far not been in consonance to the plan because of budget constraints and capacities. Secondly, it lacks legal documents (Law on Inspection; Procedure for inspection, monitoring law enforcement, complain handling, and Law Dissemination; and Human Resource Development Policy); which remain a barrier for MONASRI to fully exercise its roles and functions effectively. Thirdly, limitation of staff capacities leads to outdated law and methodology of information dissemination.

- Legal and judicial reform

In order to achieve a credible and stable legal and judicial system that promoted human rights and dignity, strengthened the rule-of-law principle of a liberal democracy, ensured social justice and created a reliable environment for attracting investment, the RGC of the Fourth Legislation was committed to accelerating the Legal and Justice Reform through: Continuing the implementation of seven strategic objectives of Legal and Justice Reform:

- Strengthening of the protection of fundamental rights and freedoms.
- Modernization of the legislative framework.
- Providing better access to legal and judicial information.
- Enhancement of the quality of legal process and related services.
- Strengthening judicial services, including judicial power and prosecutorial services.
- Enlargement of alternative dispute resolution mechanisms.
- Strengthening of Legal and Judicial sector institutions to fulfil their mandates.

- Continuing the promotion of the adoption fundamental laws:
- Law on the statute of Judges and Prosecutors.
- Law on the Organization and Functioning of Courts.
- Law on amendment of the Law on Supreme Council of the Magistracy.

Continuing organizing programs and disseminating knowledge on laws and procedures to the people, and providing legal training to increase awareness and implementation for law enforcement officials.

Strengthening the capacity building of judges and prosecutors.

Creating mechanisms that contribute to promote and process:

- Statute of Court Clerks.
- Statute of Notary.
- Statute of Bailiffs.
- Providing legal assistance.

Continuing the promotion of alternative dispute resolution mechanisms.

For the reform of the structure of justice system, Ministry of Justice (MOJ) set up two more Provincial Courts, the Pailin Provincial Court (upgraded from Provincial Department), and the Oddar Meanchey Provincial Court (a new court) in January 2011. In the past 5 years, RGC has constructed seven buildings and repaired three buildings of Provincials Courts in addition to the two new courts set up, stated earlier.

Laws that were adopted during 2009 to 2011

- Law on Implementation of the Civil Code, promulgated in December-2011.
- Law on non-Civil relegation Procedure, promulgated in July-2010.
- Law on personal relegation status Procedure, promulgated in June-2010.
- Criminal Code, promulgated in November-2009.

Drafted laws were finalized and sent to the Council of Ministers for its review and approval, including:

- Draft Law on the Organization and Functioning of Courts.
- Draft Law on Statutes for Judges and Prosecutors
- Draft Law on Statutes for Bailiff.

- Draft Law on Juvenile Justice.

For legal and judicial framework, MOJ has drafted 5 draft Laws, 2 inter-ministerial Prakas, 7 Prakas, 4 Guidelines, 1 Royal Decree, and an explanation for each of the laws on Suppression of Human Trafficking and Sexual Exploitation.

For education and dissemination of laws, MOJ has widely disseminated fundamental Laws and Laws related to promoting the cause of protecting women and children to judges, prosecutors, court clerks, justice officers and officials, a total of 9,200 participants in both the capital and provincials.

Law distribution through media has been deployed for disseminating laws to the people. Short spots on "violation of the law" have been produced and broadcast, to enhance people's understanding of the law. Round table meetings to discuss the Criminal Procedure Code and the Criminal Code as well as short spot on criminal code were broadcasted through radio and TV 5,200 times between 2009 and 2012.

MOJ distributed 156,164 copies of booklets of fundamental laws to legislative institutions, executive bodies, courts, justice officials, police, military police, City Hall authorities, Provincial Governor's offices, Bars Association, public and private libraries, and universities.

For developing, strengthening, and training human resources, MOJ focused on improving law and court service delivery by providing 39 trainings on fundamental laws, laws related to protect women and children, and other skills to judges, prosecutors, court clerks, justice officers and officials, in both capital and provinces.

According to Legal and Judicial Reform Policy, MOJ set up a Model Court Working Group. The strategic plan of the model court is to manage court registers (for example: managing statistics, following up, collecting, searching, and providing information related to litigation; thereby, all model courts has a standard). Model courts can help judges, prosecutors, the court clerk, and other related officials perform tasks simpler and more efficient. To carry forward this work, the Working Groups created 27 of court register civil and criminal books and have trained judges, prosecutors, court clerks and justice officers at municipal and provincial courts on the court registers. Moreover, their tasks were monitored and evaluated regularly.

Mechanisms for alternative dispute resolution to reduce the backlog of cases at the provincial court and to expedite dispute resolution for the citizen and the poor have been implemented by the Ministry of Justice and the Ministry of Interior (MOI). MOJ and MOI had jointly established 20 Centres for Legal Services at the city/district/commune levels in 2007; however, the cooperation ended in 2010. Seeing this successful mechanism in dispute resolution, MOJ financed by RGC, has continued to operate 20 centres and established 31 new centres in city/district/commune and another 56 Commune-Sangkat Dispute Resolution Committees.

International cooperation in legal and judicial areas especially mutual supports through judicial means among ASEAN countries was strengthened.

- Treaty on Mutual Legal Assistance in Criminal Matters (ASEAN) in January-2010.
- Agreement on Transfer of Sentenced Persons and Co-operation in the Enforcement of Penal Sentences between Cambodia and Thailand in August-2009.
- Memorandum of Understanding on the cooperation on Legal and Judicial matters between the Ministry of Justice of Cambodia and the Ministry of Justice of Viet Nam in December-2009. Agreement on extradition, between Cambodia and the South Korea in January-2011.

Although significant progress of Legal and Judicial Reform has been made through the implementation□ the work has also faced many challenges. The drafts of a numbers of laws such as (1) Organisation and Functioning of the Supreme Council of Magistracy; (2) Statute of Court Clerk; (3) Statute of Coteries; (4) Case Pending could not be completed as planned due to the nature of complexity and they require revision and further consultations with line ministries. Other challenges faced have included:
Human resource

- Shortage of judges, prosecutors, court clerks, and administrative officials at the MOJ, and municipal and provincial courts.
- Shortage of qualified special judge in the Labor Court, Juvenile Court, Commercial Court, and Administrative Court.
- Shortage of registration officials in the court registers (Model Court Project).
- Institutional capacity management:

- Shortage of office buildings in the ministry and provincial courts, and residences and offices for judges and prosecutors.
- Shortage of buildings for dispute resolution mechanism.
- Limited budget for MOJ and municipal and provincial courts.
- Shortage of lawyers for legal assistance.
- Shortage of budget for process criminal cases.
- Limited transportation for field visits.
- Public administration reform

Good governance, the core of the Rectangular Strategy, is critical to achieving the priorities of the Royal Government. Public Administration is a strategic instrument of implementation. The Council for Administrative Reform (CAR) implemented the National Program for Administrative Reform to systematically and gradually transform the Administration and the Civil Service in order to serve people better.

Governance Action Plans (GAPs) is to facilitate coordination among national and sectoral reforms in the context of successive. The GAPs cover a broad span of reforms including the legal and judicial reform, reform of armed forces, reform of public finances, decentralization and de-concentration, reforms concerning investment and trade, management of social services and management of natural resources.

The Royal Government achieved significant results in the area of public administration reform during the Fourth Legislature period, including: Managing an appropriate size of civil service while almost doubling the average monthly salary of civil servants. Establishing Special Operating Agency (SOA) including the introduction of a public service database and the expanded scope of the “**single window**” mechanism to 24 municipal/district/khan office. Restructuring the administration system and other organizational structures at the capital, province, municipality, district and khan levels in accordance with the Law on Management of the Capital, Provinces, Municipalities, Districts and Khans. Developing and establishing the sub-national financial management system in compliance with the Law on Financial Regime and Property Management of Sub-national Administrations.

Meanwhile, the followings illustrate the breadth of achievements that have contributed to developing human and institutional capacity within the Public Administration Reform and the Civil Service:

Integration of all civil servants into unifying systems more conducive to motivation and career progress has been completed. The legal and regulatory framework for the Civil Service is in place, including a Common Statute and all Particular Statutes. Management and control systems are operational and effective (for recruitment, promotion, retirement). Civil servants have been integrated into a new classification system more conducive to career progression.

The payroll system has been automated through ICT.

Innovative schemes to enhance performance and accountability such SOA is being deployed.

The Performance Management and Accountability System is being implemented to better mobilize human resources and identify capacity development needs. The Policy on Public Services Delivery has been approved and is being implemented. A Human Resources Management Information System is operational and personnel management mechanisms have been streamlined and steadily strengthened. A system of functional allowances for management and specialised skills was implemented. Communication tools have been deployed to inform about the reform (bulletin, website, periodic workshops and seminars). For basic salary preparation, the RGC achieved the implementation of the 20% annual increase in basic salary.

- Management framework

For the past five years (2008-2012), all ministries achieved following targets:

- Recruited 37,802 new personnel as civil servants.
- Retired 11,993 civil servants.
- Issued Identification Card to 41,711 newly recruited civil servants in the database.
- Issued 19,269 Royal Decrees and Sub-Decrees for civil servants.

- Issued 477 Royal Decrees and Sub-Decrees for retired civil servants.
- Issued 6,365 Royal Decrees and Sub-Decrees for promotion of civil servants.
- As of December 2012, payroll of 181,930 civil servants were automated through ICT.
- decentralisation and de-concentration reform programme (d&d)

To promote the implementation of D&D Reform Programme effectively, the RGC of the Fourth Legislation developed, approved, and implemented the Law on Administrative Management of the Capital, Province, Municipality, District and Khan (2008), elections at the sub-national tiers (2009), establishment of the National Program on Sub-National Democratic Development (2010) and approval of the National Program's first three-year Implementation Plan (IP3: 2011-2013). All aforementioned represent a commitment to the political, administrative and developmental reform at the sub-national levels.

In mid-2011, IP3 became operational. It focused on mainstreaming gender and establishing basket funding arrangements. Major achievements of the IP3: 2011-2013 are following:

Established sub-national administrative structures and nearly 10,000 civil servants were integrated into the new structures.

Developed procedures and guidelines for Districts, Municipals and Khan, both for Councillors as well as Administrators and Governors. The design of Sub-national Administration (SNA) systems was largely completed. The RGC also continued the provision of coaching and mentoring services to SNA Councils and Organizational Development (OD) process. An enormous amount of training was implemented across the reform.

Five Ministries completed their functional mapping exercises and are making decisions about which functions to transfer to SNAs, either permanently or on a pilot basis. Much was learned through this rigorous process and at least two pilots are currently being designed. Several studies were completed to clarify the general

mandate, which will serve as a basis for developing a regulatory environment which promotes SNAs essential role in poverty reduction. Established the District/Municipality (DM) Fund, created by a transfer 0.8% of the national recurrent revenues to sub-national levels. These funds support an extensive and active capacity development program, including organizational development, training, and coaching and mentoring of councillors. Projects were identified by DMs, and implementation of the DM fund will take place during 2014. Resources, through the CS Fund, equivalent to 2.8% of recurrent revenues have continued to enable Communes and Sangkat to implement their local development priorities.

In terms of enabling SNAs to manage their own personnel, two key instruments were (i) an amendment to the law on the establishment and functioning of the Council of Ministers (which has been approved by the King) and (ii) a draft sub-decree on the delegation of power to SNA for the management, appointment, movement and termination of civil servants working at Sub-national levels. These will legally permit the RCG to delegate powers to SNAs for the management, appointment, movement and termination of civil servants working at Sub-national levels.

Social Accountability Strategic Plan for Sub-National Democratic Development was approved by NCDD. The plan will be jointly implemented by government and civil society and was developed with extensive consultation with NGOs. The plan aims to (1) improve citizens' access to information in terms of sub-national performance and budgets; (2) develops processes for citizens to monitor service delivery and expenditure; (3) develops interface mechanisms for local governments and communities to agree on a set of actions which will improve service delivery. The plan emphasizes a process of constructive engagement.

Planning systems and procedures have been updated, and, as a matter of routine, all SNAs have 5-year development plans and 3-year investment programs; CS plans continue to be developed and coordinated through District Integration Workshops. Significant progress was made in establishing two National Associations to represent the needs and interests of SNA councillors.

To enhance the good governance in the framework of delivering public service to citizen in good quality, transparency, and response to the local need, the

Royal Government of Cambodia issued the Decision to establish “One Widow Service Office” (OWSO) and District Ombudsman Office at district/municipality/Khan level. Based on this decision, from 2005 to 2013, the MOI has established and operated 24 OWSOs in 23 provinces to provide 186 administrative service types that were delegated by 10 ministries/institutions. Meanwhile, the MOI is also preparing to open new 13 OWSOs in municipalities and Khan in Phnom Penh in 2014. To ensure the application of good governance and other principals related to public service delivery, the MOI also established District Ombudsman Office at district/municipality/Khan of OWSO. The District Ombudsman Office is an independent and neutral institution that receives and mediates complaints made by citizen in relation to service delivery of district/municipality/Khan administration.

These whole of government reforms are complex and require a continuous process of dialogue and consensus-building among policy makers. In particular: The transfer of functions from central to local governments is critical for improving service delivery and local accountability. Although progress has been made in developing functional mapping and review processes, functions have not yet been transferred. Key challenges include getting consensus on the functions to transfer and designing mechanisms that will not disrupt service delivery.

The National Program and IP3 identified several new central-local fiscal transfer mechanisms and local revenue sources. While the DM fund has been developed, other mechanisms, including conditional transfers, the Sub-National Investment Facility (SNIF), and own source revenues remain at an early stage of formulation. SNA personnel will need to be increasingly accountable to SNA management.

Currently, staffs have not been formally transferred to SNAs, and some positions have dual accountabilities to both Councils and the national level. SNAs will need to be provided more autonomy to restructure their offices, attract, hire, fire, discipline, reward, manage and develop human resources. The challenge will be to provide this autonomy yet retain critical elements of a national civil service system. Strengthening horizontal and vertical SNA accountabilities is an important IP3 objective. Relationships between councils and Boards of Governors needs review, councilors' oversight role with respect to Central Government service delivery

functions needs strengthening, and the Central Government will need to increasingly develop and inspect policies and standards. Mechanisms to encourage SNAs to be more innovative and to take more initiative within the scope of their poverty alleviation mandate need further development.

- Reform of the royal Cambodian armed forces

The reform of the Royal Cambodian Armed Forces (RCAF) as one angle of Rectangle Strategy demands an effective protection of sovereignty and territorial integrity, security and social order of the Kingdom of Cambodia. The reforms of the RCAF based on the RGC defense strategies incorporate in the Rectangular Strategy Phase II and the NSDP Update 2009-2013, achieved the following:

Reform of Armed Forces: RCAF has reform the organizational structure and has strengthened the technical and fighting capacity. It has also developed policies for the Armed Forces of Category 2, and those retired.

Borders Protection: The RCAF has been working diligently towards protecting the nation's borders and improving diplomatic relations with other countries.

Capacity Building in RCAF: RCAF has been conducting training in combat and diplomatic skills, learning new technologies, knowledge and skills in defence, upgrading weaponry, and participating in peace missions under the umbrella of the United Nations.

Military Community Development: The wars in the past left many areas contaminated by mines and explosive remnants of war. RCAF's Engineering Unit, in collaboration with Cambodian Mine Action and Victim Assistance Authority (CMAA) and other mine action agencies, undertakes demining operations. The Mine and Explosive Action Centre was established under the Ministry of National Defence (MND). RCAF received significant lands under social concessions after the mines were cleared from them, which it has cultivated for agricultural development.

Business Development: The RCAF has been authorized to undertake commercial activities since 2012. It established the Department of Development (DOD) in the MND to generate income, promote image of the military, and improve the standards of living of the military community.

Gender Improvement: The RCAF has been encouraging female military officers to move up the organizational ladder, despite the fact that the number of

female military officers is relatively low as of now. Gender awareness within the military communities has also been improving remarkably, though it requires further enhancement.

Although significant progress has been made in the reform process, the RCAF still has many major tasks to perform and continues its implementation:

Science, Technical and Vocational Knowledge and Skills: RCAF still needs strengthening defense activities, defence industry, business development, science, technical and vocational knowledge, and skills. All of this requires more resources.

Physical Resources: The management and utilization of RCAF's lands, equipment, factories, machinery and enterprises, are yet not efficient, resulting in low earnings from them, and the consequent low standards of living (of the military community).

Military Community Development: Strategic development partnerships for long-term investment cooperation require putting in place.

To achieve on forensic science development of Cambodia, both private and public have the same perspectives altogether such as development on forensic tools, forensic police, forensic physicians, inquiry officials, law correction, create national plan both short and long periods for all related agencies or other NGOs come to be a partner for helping in forensic process since so far, ex. Autopsy performing, accepted result of performing is only from forensic physicians in Department of Scientific Technical Police or specialized physicians from private sector. This mean, if the government allows various NGOs help in this problem, they could help a lots since there are many cases happened.

CHAPTER V

DISCUSSION

This chapter will rise about the data analysis how the result of research and related research are the same or different. This is very important to write about it because it will know clearly about research connection among related researches such as current situation in Cambodia, strategic development of forensic science, and problems and condition in forensic science.

5.1 Present Situation on Forensic Science

All over the world gives the importance of forensic science for examination the crime scene, evidence, and autopsy. Not only European countries who accepted the forensic evidence more than witness, but also Cambodia did. Cambodia was lack of many things for supporting the justice system, so nowadays, Cambodia still uses a witness as the proof of suspect of pointing the suspect who are the criminal. This could be concluded that justice system in Cambodia is not so reliable since there was less forensic evidence. This main point of view, one private attorney, mentioned that many cases are dismissed because the witnesses change their words when on the trial court. Coward people could be criminals both volunteer and are forced to be and sometimes are given the money.

A history of forensic science in Cambodia launched since Social Republic of Cambodia until Lon Nol regime (1970-1975), it disappeared during Khmer Rouge era (1975-1979) whole national structure was lost because of Pol Pot's destruction. So in 1979, Cambodia got freedom, and forensic science was started up again called "Criminal Technical Scientific Section" officially announced that name in 1980. It was one part of investigative works of criminal police in Cambodia. However, it develops from that time until present day. Whereas development line, later in 1986 it was changed a name into an Office of Criminal Technical Science, but in 1994 after first

national election, and Cambodia was necessary to get national coalition, it was created as a Department of Scientific and Technical Police. In present day, this department is named as Department of Scientific Technical Police.

“For structure of Department of Scientific Technical Police through Procedure Code, Article 109 dated on 19th August, 2015 in which new law to limit about the duty and function of Department of Scientific Technical Police. Department of Scientific Technical Police is under Department of Central Justice Police, and Department of Central Justice Police is under General Commissariat of National Police, and General Commissariat of National Police is under Ministry of Interior. Just for clarification, there are six expert offices in Department Scientific Technical Police. One of six offices is an administrative office, and other 5 offices are expert ones” he added.



Figure 5.1 Hierarchies of Structural Perspectives

Hierarchy of Structural Perspective in Department of Scientific Technical Police

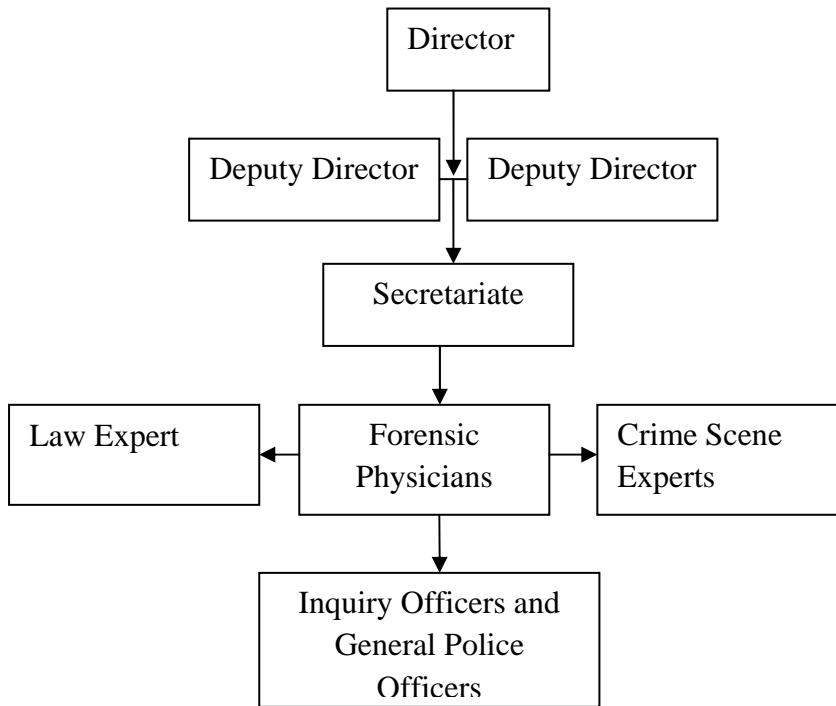


Figure 5.1 Hierarchies of Structural Perspectives (cont.)

Within Department of Scientific Technical Police, there is one director, and there some duty directors functions as assistants to director.

Thus, current forensic science in Cambodia was developing. The tools were also not enough for police work like other countries, too. But there was no even DNA in Cambodia. Any case which was necessary to use DNA, it was required to spend much money one case. The one who spends the money was litigant, so it was indicated that justice system in Cambodia was not reliable for the case of using forensic evidence.

For autopsy, other countries-not only developed countries, but also Thailand used machine to examine the autopsy for find the reasonable and real causes of death or other ones else. For example, someone had passed away in the silent fields without reasons, so Thailand and also European countries used forensic tool to perform in order to find the evidence and the causes of death. In the opposite way, forensic doctors used hands with small knife to perform the dead body, so it could be said that the result of examination is not accepted since it had been done the human’s eyes.

The other case was fingerprint, like these researchers (Jana Vanderwee , Glenn Porter , Adrian Renshaw , and Michael Bell, found that the quantification of fingerprint contrast was a relatively new concept in fingerprint enhancement research. Normally they used forensic tools to identify the same ten spots of fingerprint to show he/she was a real criminal. In case of forensic tool using is acceptable and trustful, but, you know in Cambodia, technical forensic police whom I had interviewed “we used real eyes to find ten spots by our eyes” he said.

Like Natalie Mason (2013) found about their common use in investigations at a national scale, the deployment of forensic science skills in international criminal proceedings has only become prominent in the past three decades. In many senses, the roles and responsibilities of investigators in such cases are far greater than in domestic cases, building up a picture of multiple crimes and mass graves in contrast to processing singular crimes and trace evidence which can often link the perpetrator to the scene or the victim. The recent increase in the utilisation of forensic science in the investigations of atrocities has partially stemmed from an increased awareness of human rights violations, with the public demanding that such breaches be prosecuted. These atrocities, which this thesis shall refer to generally as “war crimes”, include crimes against humanity, war crimes and genocide. Defined in the Rome Statute of the International Criminal Court (ICC), these encompass, respectively, acts committed as part of a widespread or systematic attack against a civilian population, violations of the laws and customs of armed conflict, and acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group. Such acts include, but are not on the use of forensic science in the investigation and prosecution of genocide. It has similar sense to this research since forensic science is used to investigate. Also it has the same procedure to process the regular crimes and trace the evidence, in which can contact the perpetrator with crime scene and victims.

Every country all over the world always use Police Line for protection and maintaining the crime scene not allow no duty people get into it based related researches since it is important for collecting the evidence at the crime scene. Other reasons, many people do not know how essential the police line is, and they did destruction the evidence both intentionally and unintentionally. Back to Cambodia,

even this country is one of developing countries in the world, but it also use police line. One of sampling population told the researcher that they always use the police line all the time even sometimes they do not know how big the crime scene is because there is first and second crimes scene. However, for this factor is the same to result of this research since the police officers in Cambodia also know the importance of police line and evident protection and maintaining.

Office of ABAC Poll Research (20014) did the research about problems and obstacles of government police and new general commissioner, and the result of the research was found that nowadays police office traced the news in the society only 61.1%, so it is appropriate with governmental police officer said that most of police officer are busy so much social works such as keeping peace, collecting and preparing the evidence, investigation, daily problems, especially guard the royal family and so on. Thus, many police officers are not so free to trace the news in the society.

For keeping peace here means that police gives the security for the public likely standby police station, dangerous places like a pub, club and other entertainment places. Anywhere that the public feels insecure, police will be there all the time. Later, when the crime happens at any location over the country, police is told to crime scene for arresting the offender. The most important is that must collect the evidence, and investigate-investigation is the hardest process of all because it is complicated to trace the criminal. Every hour over the country has a case to complaint, so enquiry police is to respond for that. Some of police are to guard the royal family as well as when they are going to somewhere over the country, many police officers have to take care and accompany them all the time until finish mission. So, this result of research is suitable for police officer at Scientific and Technical Police Department, ministry told the researcher.

The other results of research are when asked about providing services for the public, the result found that mostly 83.8% specified about not enough instruments. All most every department of government services are lack of tools, especially Scientific and Technical Police Department-forensic tools for supporting investigation and evident collection as well as the trust at the court trial. So, we can say that current forensic science in Cambodia is not good enough-almost all results from forensic tools. The police still use the old style of evident collection such as witness in order to

make a file case, but it is trustful anymore since the people can change their minds all the time and some witnesses are forced, threatened, bribed, and other factors are denied to answer.

Chanida Lertsithikul (2006) found that scientific evidence has very important roles for examining the suspect offense or purity for criminal procedure. The evidence in the crime scene such as hair, nail, blood, semen, and so on, in which we can bring them to examine in order to find who offender is. In general, most of countries around the world understand like this and they have the same perspectives to identify the wrongness and perpetration of the criminal. Although forensic evidence is recognized globally and broadly, but Cambodia does not have enough forensic tools for helping police work. It can be concluded that current forensic science in Cambodia reduce the standard of forensic science all compare to other countries since most of the cases use only witnesses except fingerprint, sperm, blood stain what Cambodia can do them.

Li Liu (2008) made the research of effectiveness of strong afterglow phosphor powder in the detection of finger-marks". There are numerous types of fluorescent finger-mark powders or reagents used with the visualization of latent fingermarks deposited on multicolored substrate surfaces that can present a contrast problem if developed with regular fingerprint powders. The developed fingermarks can show bright fluorescence upon exposure to laser, ultraviolet light and other light sources. These kinds of methods share a common concern, where surfaces and other substrates may fluoresce also. To overcome this concern, we have developed a phosphor powder which offers a strong afterglow effect which aid in the establishment of better fingerprint detection. With the advent of a phosphor powder no special devices are required and the results obtained from fresh or a few days aged latent fingermarks left on: non-porous; semi-porous and also on some porous surfaces have been good. The strong afterglow effect offered by phosphor powder is also applicable for cyanoacrylate fumed fingermarks. Lift off and photography procedures of the developed fingermarks are incorporated in this paper. This result of her research found that the powder can used for detection of fingerprint. Thus, it is agreeable with present Cambodia.

Powder is used in Cambodia for examining the fingermark. There are many cases get successful because of power. But what the difference is procedure since Cambodia just put the power at any place where is suspected that the fingerprint of the suspect left. And then, if there is a fingerprint as expected, police officers would take a photo by general camera and insert into computer for comparing with the suspect who commits the crime. However, seeing the ten spots of fingerprint by technical forensic police, but other countries they use forensic tool correctly and strictly.

Even though forensic science is very important and unchangeable, but one police officers at General Commissariat of National Police said forensic science must use much more than witness. Every case must get into the process, and get through its steps all the time that's why some cases are delayed and waiting for the result of evident examination until it issues.

5.2 Conditions and Factors Concerned to Forensic Works

As for the conditions and factors involved on forensic perspective in Cambodia, it was found as follows;

- 1) The human factors
- 2) Technology assistance
- 3) Budget
- 5) Management, Money, Material, and Man
- 6) Law

Since there are not enough forensic police officers at Scientific and Technical Police Department, Cambodia has approximately 145 officers all over Cambodia. Police officers do not have only responded for evidence collection, evidence examination or arrest the offenders, but also keep the peace the public within country. Police officers function to protect and give the warmness for the public including crime protection and suppression, criminal justice enhancing, keeping the peace for lives and properties of the public and so on. Police is a big organization where always has the problems of organization management-that's why police officers could not follow all the tasks provided efficiently. Problems of compensation welfare

conclude various sources that are necessary for work practice, in which considered as important problems in body strength, emotional strength and duty functioning of police officers, especially evidence collective police officers. They do not have enough tools, and modern instruments in duty functioning, budgets and not forensic police lecturers, money support from royal government and other agencies are not appropriate with real situation that police officers need to use them, and low salary that is the main problems affected to standard of living in Cambodia. If comparing to Thai police or other countries in ASEAN members, Cambodian police officer get very low salary with hard work. In Cambodia, there is no forensic science academic at the university or institutes as bachelor or master degrees, so a number of forensic police officers are not enough including police officers are sent to study at abroad.

From the mentioned problems, opposite way in the real society, the public would like police to work with transparency, no any corruption, focus on providing good service for the public, no discrimination, and police have to follow all disciplines or rules. For opinions of police officers understand that the public's perspectives think negatively too much about police, Cambodian people and whole society expect too high about police's capacity in reality. The differences between reality that police existing now with expectation of society and people as mentioned above, so must rush to process, study, and resolve the problems what police unit needs including the problems of budget, compensation welfare or instrumental weapons such necessary tools are not enough for work practice because the mentioned problems make forensic police and police officers inefficient in evidence collection and evidence examination responsibilities. It is also a risk or empty space to find the benefits by unlawful actions or corruption, in which affect to police organization in people management efficiently, and to justice process in criminal justice enhancing, and finally negative images come to police unit. Cambodian people do not strongly believe in criminal justice providing organization, especially evidence collection and evidence examination of inquiry officials in any case.

Patchara Sinloyma (2014) did a research about "The Development of Forensic Science Process Model for Criminal Investigation in Three Southern Border Provinces of Thailand". She had found the conditions and factors concerned to forensic science as same as this result of research as following:

5.2.1 Problems of police personnel

Many police officers do not be aware of law such an institution, criminal law, criminal procedure code, civil procedure code, rules, regulations, orders including to agreements with other agencies, laziness such as case evidence collection, witness tracing, result of examination, not following rules of laws enacted in an institution. Not pay attention for human rights such as victim's rights, suspect's rights, witness's rights include to the public. Corruption-not aware of inquiry officials' ethic, suspect, signature of governmental letters for contacting with other agencies, proof checking, typing, and reading and so forth. Problems of knowledge, understanding of police officers concerning with evidence collection, especially in the issue of crime scene check found that police officers do not know the importance of crime scene protection and maintaining. Problems of emotional strength lacking and improvement of royal governmental officials. In the years, inquiry officials are filed very often, this is reason that make inquiry officials worried and do not want to be the mentioned position. Lack of inquiry and investigative officers found that a quantity of inquiry and investigative officials are not still enough and suitable to such many cases caused. Lack of forensic doctors: whereas forensic physicians have to travel for performing the autopsy referring to code of criminal procedure found that those physicians have a little quantity even though the law allow to bring doctors both from private and public hospitals, but there are some problems such as doctor is busy to cure the patient's, doctor needs to relax for tomorrow work or female doctors could not be able to go out far and perform the autopsy at night and so on. The most worried things are that at the provinces (nearly all the provinces in Cambodia), there is no forensic doctors, that is why caused the crime scene examination is not accordance with the law and can be lack of complete evidence. Problems of not paying attention or interest from senior commanders, evident collection even though in charge inquiry officials. However, every position of high commanders function to take care inquiry officials to be deserved in order to get efficient and successful in goals. Besides some of practitioners, some under-power police officers must be wise, knowledgeable, skillful, and experienced including virtual and ethic. And commanders function to introduce, order, define the guidelines, and be fair with under-power police officers to complete

the public's demands. Problems of pressure from society that police officers are pressured from society so that the work could not do smoothly.

5.2.2 Lack of National Strategy & Planning

It was patently clear at every interview with the judicial police and the courts, that coordination of effort between central headquarters and the Provinces is minimal at best. There appears to be system where money for provincial offices of both the police (MOI) and the courts (MOJ) is distributed via the provincial Governors and is then allocated from there. Corruption and political affiliation also influence this process. Lack of funds at both central and Provincial levels means an 'unofficial' system of cross charging takes place with forensic examination not occurring due to lack of funds.

5.2.3 Lack of Management, Supervision & "Self-starting"

This is a significant problem but more so centrally than provincially in regard to Department of Scientific Technical Police. There is no evident understanding or motivation toward improving their situation through sharing resources or diluting the boundaries between the very rigid divisions that have established between the various forensic disciplines. In some provinces, where Phase I had a presence, there is some cooperative spirit and effort between the areas. This was not really evident in other provinces. Centrally there appears to be little work although samples are referred from Provinces. It seems that Phnom Penh police do most crime scene work around the Capital, with the central Moi Department of Scientific Technical Police group being called for 'major crime' only.

5.2.4 Problems of Forensic Technologies for Collecting and Examining the Evidence

Nowadays forensic tools are not enough such as lacking of transportation and forensic instruments for evident examination found that currently department of forensic technical police, Ministry of Interior, Cambodia, lack of modern forensic instruments and its necessity to use for evident examination rapidly, correctly and reliably. Lack of modern technologies in data examination and database administration

which ministry of interior should take action for it. Lack of modern forensic instruments and comparing to foreign countries such as Atomic Absorption Spectrophotometry (AA) that used for gun examination, but the time is limited from soot collecting still alive only 6 hours, and other tools even DNA in Cambodia but Thailand has. If researcher discuss about forensic tools, Cambodia still needs a number of tools as well as specialists of forensic science

5.2.5 Problems of Other Agencies or Organizations

Problems of showing how to maintain and examine the evidence, problems of showing how to collect and examine some kinds of evidence to let outsiders or the public knows. Lack of cooperation from witnesses for providing the data as benefits to evidence collection in participating the case during meeting. Lack of exchange meeting with inquiry officials and related agencies in the justice system such as court, or prosecutors in order to analyze the cases or review the successful cases and failed cases altogether. Lack of exchange seminars among practitioners such as court, prosecutor, forensic physicians, and investigative section and inquiry officials so that they cannot know the lesson that had failed or threads in each section. And last is lack of coordination among related agencies concerning with evidence such as sending the dead body to hospital for performing, but in Cambodia there is such a service as researcher had mentioned about that most of forensic physicians just used their small knives to cut any part of body for examining by eyes (without technological tools), and the left parts leave at the same place if there is one dead body lying the field or something and collect soot of gun. Sometimes forensic doctors in the public hospital are lack of knowledge about forensic science likely autopsy. They do not know where they have to collect and whom they are going to send to, that's faces with the problem of coordination with each other. Some kinds of evidence are sent, some of inquiry officials do not accept because they do not understand or have the knowledge of forensic science whether they should keep that evidence or not. Whereas police officer keep only evidence where get the suspect, and they do not collect from the victims or related persons so that it is hard to analyze the result of evidence examination of examiner or that case could be completed such a death case. Only suspect is sent to check DNA, but related people or surrounded ones would not be sent.

5.2.6 Lacking of Budgets

Compensation of scientists is not equal with inquiry officials or agencies since the responsibilities are quite similar such as crime scene search, evident collection, evident examination and witness at the court. Scientific and Technical Police Department under ministry of interior is lack of budget so much. It happens almost every institution in Cambodia where does not have budget for working. However, that department is supported a little money for working practice or field work. One forensic police officer at that department told researcher that any time when they go to work at the provinces, sometimes they use their own money for filling the petrol. The problem of supporting special money for investigative officers since they have to pay for many things for arresting the offenders such as travelling, foods, residence and news tracing. In the past years, there were many cases related to burglary.

5.3 Strategic Development of Forensic Science

In order to develop the forensic science in Cambodia, many experts of forensic science and academicians in Cambodia had told about how to improve the forensic science efficiently such as Four Ms development, technology, academic study of forensic police, forensic police, training, providing the scholarship, exchange program with other countries, research institution and co-research with other countries especially ASEAN member countries, and law enforcement.

5.3.1 Four Ms (Money, Management, Men and Material)

One institution can be developed well based on 4 Ms such as man, money, management, and materials. For such an example, forensic science are needed to man for the first M. M here is referred to human resources who are experts, specialized and skillful with those fields-forensic science.

In order to build human resource of forensic science, the government should give opportunities for all police officers go to study at abroad; provide the training course, give scholarship yearly. Retired forensic scientists are necessary to provide the advisory opinions for new modern forensic police. This idea is in the draft

of Royal Thai Police seminar, in which it is accordant with this result. It also talks other M is management. 1) The structure of agency should correct to get appropriate with administrative system and structure of Thai society by giving the Royal Thai Police and the legal entity headquarters and police stations or equal agencies should have strength, unity, be able to manage human resource and budget section by themselves. And the public who participated working should reduce unrelated missions with protection and suppression the crime to related agencies, and the last should share the structure of duties for police should be divided into two parts such as suppression missions and mission support facilities. 2) Personnel management should prevent the political invasion to build the stability of careers by reforming to hold the position at office the police commission to make similar with office of the justice commission should enact statutes how to appoint the position fairly, and that is decentralization. Stuffing the governmental police non-commissioned officer must be 20 years old, vocational training. Bachelor should be trained all the time and there is limitation of position appointment clearly, and correct the compensation equally to the other agencies, in which have similar missions in sections of the public participation. The Royal Thai Police sees the importance of the public participation that is only one governmental agency called "Policy Committee of the Royal Police" The Audit Committee and monitor results Services of Bangkok" and at the provinces, there is the public and local organization join as the commission, that the commission is on duty of beginning, finding an idea, deciding and tracing to evaluate the work results of police. Besides these, there is related process as following:

- Draft the mediation Code of dispute in criminal investigations
- Draft the Code of private security
- Building stronger communities to control crime and vice
- Request the law and rules to support the work and compensation for police, various volunteers such as traffic, Amateur Radio, and disaster prevention and so on. 3) Inquiry section and justice enhancing of police duty, Royal Thai Police gives the importance in correction and development of criminal procedure by:

- Defining the guideline of responsibility in inquiry section
- Improving the professional inquiry officials

- Using work team of case mediation completely for vital case by bring the forensic method to work practice.

1. Money is referred to financial standard for each activity such as project, department, part, data received from budget for expend each period, aimed planning data and future prediction.

2. Management divides work in the organization as parts by combining high relation teamwork together include defining the responsibility of work and work-team consist of relation between works or other agencies. Character of relation is authorization for suitable various works in order called command sides. From highest to lowest levels of the organization, however, authorized sharing of general duties get influence directly from administration whether authorized sharing is practiced or not.

3. Human management, organization without human is like body without spirit. Human managing is considered to work with appropriate position to their skills and prefer. It causes governmental police use ability as much as they can do for making one organization successful regarding to plan. To choose enough personnel both quality and quantity. However, successful human management is relied on clear identification of individual advantages. Every work and position is paid equally to the functions. Besides these, there is human management process till taking care personnel during and after work in the organization. Hence, executive has to be aware of various instructions such as training course for personnel, evaluation and work practice of the personnel.

4. Material Control in practice refers to factors of material management, material import which related to the price everything, so there is development of control, likely material control will focus on the price when feel like to buy something and control. Planning of material control means that to buy proper things with process of work demand. Punctual control is price control as lack of goods. It can help to reduce the difficulties of material keeping including quality control, quality examination and quality insurance.

Four Ms above could be concluded that money management, management of organization, man management and material control are keys of hearts in organization development, specifically Royal Thai Police, Cambodian National Police and system development of work police efficiently in work practice include to

resources of organization in order to improve co-ordination participation between departments to other departments. Here is very vital to study the strengths in Thailand to correct or develop in Cambodia because not long, AEC will be combined together for increasing co-operation among ASEAN member countries.

Thus, many research results always rise about four Ms in order to develop well because one of researchers found that money, materials, management and man. As we have wise man, a lot of money, enough materials, and good management. Forensic science in Cambodia will be developed as well.

Related research in Chapter II also found that there are some policy developments for better correction in one organization such as exchange program by sending police officer to study short time at abroad, providence scholarship long term study, create national forensic science, and law correction. This result of my research had been found that same things and accordance. Many sampling populations also talked about these factors for development of forensic science in Cambodia.

However, he continued that since Cambodia does not have enough budgets for providing the mentioned policy, the development is still and narrow understanding of forensic science. He added that we have good policy and ideas, but we do not have money. Thus, everything is delayed. In opposite way, the police officers who have opportunities to be provided the scholarship can come to train local police how to strengthen forensic science in Cambodia, and they might work with same skills what they had learnt.

Besides four Ms above, in order to develop the forensic science in Cambodia, many experts of forensic science and academicians in Cambodia had told about how to improve the forensic science efficiently such as technology, academic study of forensic police, forensic police, training, providing the scholarship, exchange program with other countries, research institution and co-research with other countries especially ASEAN member countries, and law enforcement.

5.3.2 Technology

Eventually forensic science is necessary to use technology to help in justice process. Technology plays important roles in collect evidence and evident examination. One police officer said government should invest the technology for

forensic science because it is easy to apply for it. This is number one if comparing other factors since nowadays the government does not care much about technology that is necessary for examining the evidence. So far all processes of autopsy and evident examination are adapted to use by people, so the quality and trust are still limited both justice and the truth. In the present day, technology plays very vital action for every sector not even forensic science, but most of cases on the trial process failed since the evidence is not enough, not reliable, not trustful, and some cases, the witness changed their speeches when on trial.

5.3.3 Exchange Program

For every sector all over the world, especially the sector of forensic development. The government nowadays tries to send governmental officers to study abroad every year. Some countries have signed MOU, and some not yet. However, they understand and allow Cambodian police officers to get education from abroad even long or short course of training. This is very important field of forensic development in Cambodia. On the other hand, the term “exchange” does not mean only Cambodia goes to study at other countries but also those can come to share experiences related to forensic science development, forensic tool, and technology use for helping in forensic work and so on. In this mean, since Cambodia is one of countries where has just recognized and accepted the importance of forensic science to support at the court trial, so the experiences for sharing to other countries seem not much. However, all forensic police officers are happy to learn and get training from experienced or experts forensic scientists from developed countries. Recently, at the Ministry of Interior is supported from Norway for preparing the short course in order to train about forensic science development every year and take three months periods to finish the course.

5.3.4 Research Institute

One sector can be developed because of research. Research institute is very important for current society even Cambodia does not pay attention on research. The term “research” has broaden meaning such as research for reasons, research for the causes, future research, research for development, research for circus, research for

better work or research for SWOPT for strategic development in case of company and state institutions. For a development of crime in Cambodia happened every day and most of the cases are lack of evidence, as well as forensic evidence. So this is can be concluded that Ministry of Interior should have its own research institute under the ministry focus on forensic research, development of evident collection, evident examination, crime scene investigation and so on.

5.3.5 Law Enforcement

For forensic science in Cambodia, law is also important to adapt the modern society now. Government should update the law to appropriate with new technology since now in Cambodia does not have the law to accept only forensic science yet. Thus, police officers are hard to work for collecting the evidence.

Law is very essential for helping in power using of police officers because sometimes when there is a crime happens, normal police officers have to inform the specialist or forensic police for protection the crime scene. That is why the case might be delayed, and some evidence might lose by someone destroys it. If the law allows all police officers have authorities to collect the evidence or crime scene by themselves without permission or assignment, the case should have finished faster and can be provide the justice in time.

5.3.6 SWOT Analysis

Seeking the guidelines on forensic science development of Cambodia in order to provide the public to reach the justice system by such a real forensic science using in global standard, and the fact from the study of principles of concepts, theories and thoughts are combined together. The research is conducted by interview senior academicians, private sectors, governmental sectors and all related agencies to survey comments from concerning practitioners related to forensic works in Cambodia. The data is brought to analyze for setting the guidelines of forensic science development to become efficient and convenient for the public.

5.2.2.1 Strategic Planning

Strategic planning here is referred to process planning or adjustment, development for adjustment, adjustment, strategic development of

forensic science, and practical planning, explanation for practice, the ways that related agencies change the plans as the situation is changed, and how to survey the succeed, in which focus on three main strategic plans as following:

1. Focus on service users: the public who comes to take a complaint at police station, especially poor people, do somehow they can receive the justice fairly, and responsible persons are organizations, institutes or governmental officials in justice system as well as rights and freedom assurance, and Ministry of Justice, NGOs should provide the fair services for the public...ect.

2. Adjustment of process results effect to efficiency adding and justice enhancing, and forensic science development for evident collection, evident examination and autopsy in Cambodia in order to provide the justice for the public altogether fairly and discrimination in Cambodian society, in which it is a good image for Ministry of Justice both short and long periods. To reduce the problem of disputes, build the competency to protect and aware of correct check and transparency of justice system process including to work practice such as case delay or fast service, compensation and be reflexible for making the whole organization become sustainable.

3. Adjustment of process results for adding the efficiency in justice enhancing, adding the efficiency in justice fund in order to provide the justice for the public altogether fairly and discrimination in Cambodian society, in which it is a good image for Ministry of Justice both short and long periods. To reduce the problem of disputes, build the competency to protect and aware of correct check and transparency of justice system process including to work practice such as case delay or fast service, compensation and be reflexible for making the whole organization become sustainable.

So, analysis is important to evaluate various factors such as strengths, weakness, opportunities, and threads as well as the skills for working through its strategies, using human resources for the most useful in development. It could be assured that there are enough trained police officers for working at any institution. Furthermore, it could define short and long demands, which provide benefits and suitable for three levels of the same guidelines as following:

- (1) Levels of organization and executives

(2) Levels of important process

(3) Levels of agencies and individuals

From this study, the data related to strength-weakness, opportunity-thread, internal and external analysis by evaluating external and internal environment, researcher brings strength-weakness to compare with opportunity-thread from outside the organization in order to know that how forensic science is processed in Cambodia, when there is such a problem, how board of commission or forensic police should resolve. In general, SWOT analysis on forensic science development of Cambodia is divided into 4 parts as following:

(1) First situation (strength-opportunity) is a good factor which executives should set aggressive strategy for bringing strengths to promote and adjust for developing forensic science in Cambodia.

(2) Second situation (weakness-thread): Generally this situation is the worst one since the organization is facing with external problems and a lot of internal weaknesses. Therefore, the best choice is defensive strategy to try to reduce or avoid various threads that would happen, and measurement for making an organization getting the least failure.

(3) Third situation (weakness-opportunity): This kind of situation, the organization gets competitive advantages, but there is a problem of weaknesses, too. So, the resolution is turnaround-oriented strategy to manage or work weakness out for receiving the opportunity.

(4) Forth situation (strength-thread): This problem happens when environment is not convenient for work process, but the organization has plenty of advantages, but replacement of this, have to wait until the environment has changed. It would be chosen a diversification strategy for using the benefits from strengths to create other opportunities.

SWOT analysis in forensic department in Cambodia had been found after researcher had asked the respondents in Cambodia. Researcher analyzed in order to develop the forensic science whether how we can development by using strategic way. The SWOT analysis would rise about strength, opportunities of first part for reaching the forensic science in Cambodia to find the strength and opportunities for an organization. After finding the strength and get benefits from the environmental

opportunities and can set the strategic development to overcome the obstacles or reduce the weakness of negative factors to forensic science process under SWOT analysis, so it would be analyzed both external and internal environment and externality of an organization as following:

Table 5.1 SWOT Analysis

Strength	Opportunities	Process
1. Training course on forensic science for three months every year	1.Norway supports budgets and trainers every once a year lasts three months	1. Prepare to have long course for forensic police, and also set study program at universities in Cambodia.
2.International Cooperation with NGOs	2.NGOs supports some forensic tools such forensic powder, fuming box, crime scene forensic kit, and Bluestar forensic and so on.	2. Development the database, improvement of forensic tools related to forensic science in Cambodia.
3. Provident scholarship for forensic police once a year.	3. Skillful forensic police come to work at Scientific and Technical Police Department	3. Correction of forensic police system since some police who graduated from other countries did work direct skill learnt.

Table 5.1 SWOT Analysis (cont.)

Strength	Opportunities	Process
<p>4. Forensic police very hard work, industrious, helpful their colleagues with a little budget and lack of forensic tool and could work even go to other provinces</p>	<p>4. AEC had already combined, so all forensic police would have opportunities for cooperating with ASEAINPOL.</p>	<p>4. Data development or website for loading the important documents related to forensic science development such a web board for forensic police to learn, exchange the experiences, regulations, and be a learning source to become learning organization and knowledge management.</p>
<p>5. There is knowledge system and training course for forensic police yearly for both general work process and principle process where are necessary for forensic work.</p>	<p>5. From survey from respondents, forensic science is a part of justice system for getting into the trial in order to reducing the delay of case, besides this, other countries are trying to adjust its forensic science to become standardized one for helping police work and providing the justice for the public</p>	<p>5. Forensic specialists are invited to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.</p>
<p>6. Strategic Plan set up and draft for evident collection, crime scene search and autopsy to become a real practice.</p>	<p>6. Local community had participated as well as volunteered for collecting the evidence at the crime scene, at the same time.</p>	<p>6. Plan and draft are used for collecting the evidence and the participations from the public for other processes about forensic.</p>

Second part was analyzed about weaknesses and threads mostly focus on the most gangrenous situation of forensic science since the organization is facing with external problem and obstacles and weaknesses, so the most important strategy is defensive strategy in order to reduce the problems, which supposed to happen including to what could make the organization get the least loss.

Table 5.1 SWOT Analysis (cont.)

Weaknesses	Threads	Process
1. A process of evident collection is still slow and there are many points are to adjust for better forensic science	1. Economic and social situations are changed, that's why impact to the standard of living, work, and a lot of complaints, especially many laws are enacted.	1. Survey the obstacles in forensic science process that happened from other agencies, specifically the cause happened because of delaying related to technical process and concerning principles such as failure from fact examination, and evidence collection and manage handbook for better work and reduce the delay of work practice.
2. Work security is still the main problems since forensic police moved to work other places when they new jobs, never come to work at office or work for private companies, and so on.	2. Impact to investment sectors that foreign investors come to do business in Cambodia, and they might unsecure to make the investment.	2. Coordinate with schools, mainly forensic science institute to manage students come to do an internship for receiving the experiences related to forensic science or forensic police who got scholarship, must come and work at Scientific and Technical Police Department, Ministry of Justice.

Table 5.1 SWOT Analysis (cont.)

Weaknesses	Threads	Process
3. Structural Problem, there is no forensic police at the provinces but city.	3. Income is from government, so budget support from government is a little for police to work at countryside.	3. Try to fond forensic technology to help in police work such as evident examination, and autopsy and so on.
4. There is not enough forensic police and have only in the city.	4. A number of cases increased every day, so probably 145 forensic police all over Cambodia are not covered a quantity of crimes.	4. Trying to use technology to help is a important way since we could one forensic police or forensic scientist for one crime, so we could reduce personnel for going to the crime scene, however forensic police are necessary to apply as much as possible for forensic work nowadays.

For third part is weaknesses and opportunities are good points for an organization to proceed and receive the advantages for challenges, but still face with weaknesses, too. The resolution is that turnaround-oriented strategy to destroy or resolve internal weaknesses and getting opportunities.

Table 5.1 SWOT Analysis (cont.)

Weaknesses	Opportunities	Process
1. A process of evident collection is still slow and there are many points are to adjust for better forensic science.	1. From survey from respondents, forensic science is a part of justice system for getting into the trial in order to reducing the delay of case, besides this, other countries are trying to adjust its forensic science to become standardized one for helping police work and providing the justice for the public	1. Manage to find clear consideration on evident collection and evident examination.

Table 5.1 SWOT Analysis (cont.)

Weaknesses	Opportunities	Process
2. Work security is still the main problems since forensic police moved to work other places when they new jobs, never come to work at office or work for private companies, and so on.	2. Technology had been developed and improved to develop database for evident collection and evident examination to Scientific and Technical Police Department for getting more efficient related to forensic science. The forensic police is also easy for working and no need to spend much to find the truth.	2. Manage e-learning for forensic police who could come and study easily about how to collect and examine the evidence correctly in the future.
3. Structural Problem, there is no forensic police at the provinces but city.	3. Local community had participated as well as volunteered for collecting the evidence at the crime scene, at the same time NGOs also helps in case of bombing called CMAC (Cambodian Mine Action Center)	3. Trying to find empowerment and the public participation
4. The public participation for collection and examination the evidence as well as crime scene controlling is still the problem.	4. The public participation increases trough volunteered system to help in police work, for example: crime scene control before justice police arrived and so on.	4. Allow the public to participate with police, that, useful to be witness and get the clues for arresting the offenders.

For forth part is about strength and threads. It happened from inconvenient environment to forensic science, but an organization had its own strengths, so it could be used diversification strategy.

Table 5.1 SWOT Analysis (cont.)

Strength	Threads	Process
1. There is knowledge system and training course for forensic police yearly for both general work process and principle process where are necessary for forensic work.	1. Economic and social situations are changed, that's why impact to the standard of living, work, and a lot of complaints, especially many laws are enacted.	1. Manage e-learning for forensic police who could come and study easily about how to collect and examine the evidence correctly in the future.
2. Forensic police very hard work, industrious, helpful their colleagues with a little budget and lack of forensic tool and could work even go to other provinces	2. Impact to investment sectors that foreign investors come to do business in Cambodia, and they might unsecure to make the investment.	2. Set the policy for helping the foreign investors if fthey have problems and hurry to process the cases first before preceding the local cases since it had many benefits for the country.
3. There is knowledge system and training course for forensic police yearly for both general work process and principle process where are necessary for forensic work	3. Other agencies concerning with forensic science is still lack of knowledge related to evident collection, evident examination and crime scene control.	Forensic specialists are invited to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.

Table 5.1 SWOT Analysis (cont.)

Strength	Threads	Process
4. Strategic Plan set up and draft for evident collection, crime scene search and autopsy to become a real practice.	4. Income is from government, so budget support from government is a little for police to work at countryside.	4. Prepare the plan for funding on order to support for transportation, buying forensic tools and something convenient for forensic work.

5.3.7 Training

In the Department of Scientific and Technical police is provided training courses from international and national agencies. Project delivered training on the operating procedures and the forensic elements therein has been successful at some levels. Recent attempts to conduct training by the National Police Training Department have been criticized in relation to delivery methods and the materials used. Introduction of elements from other programs such as the Gendarmerie, and the Japanese JICA program was confusing, and diluted the important messages regarding forensic crime scene procedures.

The approach taken to training generally in Phase II is to build training capacity within the sector. The forensic training needs will vary between the central and provincial sections. It is intended that the police adviser and counterparts at the Central S&T will determine what might be regarded as “specialist” forensic training needs to be met by a short term forensic expert. At Provincial locations the level of training required can be met by the police adviser possible supplemented by staff from the Central Office.

Table 5.2 Training

International Training Courses	National Training Course
Japanese International Cooperation Agency (JICA)	National Police
France	Police Academy of Cambodia (PAC)
Thailand (International Law Enforcement, ILEA)	Department of Scientific Technical Police sponsored SBI, ASP, Japan, China, France, they come directly and train.
Forensic Science Institute, Hanoi, Vietnam from 3-6 months	General Expertise Office
China	Working places
Korea	

5.3.8 Real National Plan (2014-2019)

In Cambodia, there National Plan called “Strategic Plan of the Cambodian National Police”. The duration of that plan could be 5 years, 3 years, 1 year and 6 months. But here researcher would like to rise is 5 years plan.

Good governance: the core of rectangular strategy

Good governance remains at the core of the Rectangular Strategy. Four major reform areas to promote good governance continue to be RGC's priority in its pursuit for achieving sustainable, steady, and equitable socio-economic development, equal opportunity, equality before law, and social justice. These are: (1) fighting corruption; (2) legal and judicial reforms; (3) public administration reforms (including decentralization and deconcentration); and (4) reform of the armed forces. The ultimate objective of the reforms, as well as that of other reform programs including public financial management reform, land reform, and forestry and fisheries reform, is to strengthen the capacity, efficiency and quality of public services to raise public confidence in government and respond to the needs and aspirations of the people and business community.

To achieve on forensic science development of Cambodia, both private and public have the same perspectives altogether such as development on forensic tools, forensic police, forensic physicians, inquiry officials, law correction, create

national plan both short and long periods for all related agencies or other NGOs come to be a partner for helping in forensic process since so far, ex. Autopsy performing, accepted result of performing is only from forensic physicians in Department of Scientific Technical Police or specialized physicians from private sector. This mean, if the government allows various NGOs help in this problem, they could help a lots since there are many cases happened.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

After research is done, researcher had some suggestions and recommendations both from governmental official servants and from private sectors in order to develop forensic science in Cambodia as well as Cambodian forensic officers as following:

6.1 Guidelines for Development on Forensic Science such an evident collection and evident examination in Cambodia

Researcher had studied the related documents both English, Khmer, Thai documents and also made in-depth interview with forensic specialists in Cambodia and Thailand about evident collection and evident examination in order to suggest the guidelines for development on forensic science in Cambodia. In short, it was used for resolving the present problems happening in Cambodia related to evident collection and evident examination as well as crime scene investigation in term of forensic science. Recommendation was combined into a group such as forensic science work, inquiry officials, investigators, forensic medical science, prosecution of attorney, bringing the case to the court and case trial, special considerations, and strategic development recommendation on forensic work in Cambodia.

6.1.1 Forensic Science

1) Give the importance of forensic evidence more than witness. Witness could really help at the court, but they might change their words when they were threatened, hired, and so on. But forensic evidence could not be change anything. Nothing was hidden beside the scene, no adding more or creation or fake evidence as real ones unless process of crime scene examination, evident collection, and evidence chaining are legal.

2) Providing the importance of crime scene controlling and protecting strictly or Police Line that is essential so much and enacted the law for protection on crime scene as good as possible because crime scene is very important source of evidence collection. If we do as the mentioned points above, it causes the evidence at the crime scene valuable to be real evidence for that case and be used at the court, too.

3) Support forensic scientists to work at Department of Scientific Technical Police, Ministry of Interior in order to have chance to learn new modern forensic science how to examine the crime scene and evident examination all the time and through every case since present lecturers have less knowledge about forensic science, and also the crime develops so much from one day to one day. On the other hand, there are not many forensic personnel who have chance to study and train at abroad, especially the scholarship of forensic science such as crime scene examination, evidence collection, and autopsy that provide to specific agency to study only. Present day, there is no major of forensic science at Police Academy of Cambodia as well as at private university or public university, which all forensic scientists were trained with short courses, which took three months or six months.

4) Add more budgets for buying forensic tools for forensic police at Department of Scientific Technical Police, Ministry of Interior to use for evident examination as in the foreign countries they had Scanning Electron Microscope (SEM), for examining the soot of gun like Atomic Absorption (AA) that limit the time for collecting the soot of gun from human only 6 hours, and DNA tool is very important so much for evidence, but opposite way, there is no forensic tools even DNA in Cambodia.

5) Must increase a number of forensic scientists because nowadays there were many cases happened within years as one police officer in charge of special forensic office said one day there were at least three cases called him and filed both in the city and provinces. So forensic police were not appropriate to a number of cases. When there were not enough forensic scientists or forensic police, the problems would be happened later such as delay the case, many cases got failure and other cases weren't anybody to take responsibility for tracing the case.

6) Increase the compensation for professional forensic scientists somehow equal with other enquiry officials or police officers at other agencies since the

responsibilities are quite similar such as crime scene examination, evident examination report and be a witness at the court. It could be concluded that there are many responsibilities and some cases facing with health calm such as arson and bombing and so on.

7) Reducing repeated crime scene examination and evident collecting between forensic police and jurisdiction police. Must coordinate with other whether which group have been gone to examine the crime or collect the evidence.

8) Add modern evident forensic examination such as foot print examination, signature examination, bloodstain examination, forensic examination, animal forensic examination, and the most important tool is DNA where in Cambodia didn't have such a tool for DNA examination and so forth, in which the mentioned tools can support the cases successfully.

9) Add the budget for Department of Scientific Technical Police, Ministry of Interior like other department or agencies of public institutions in Cambodia. In the present time, the budgets for travel or practicing for forensic police of Department of Scientific Technical Police has limited amount, that, not enough for work practice.

6.1.2. Inquiry Officials

1) Should add more inquiry officials since now a number of inquiry officials and cases were not suitable, so an inquiry official should respond only 40-50 cases per year. In case, quantity of inquiry officials had enough numbers, those cases would be finished in time, no delay cases, and knew more details of any case.

2) Increase the compensation for inquiry officials for equality in the society, and should manage to have DSI, jurisdiction police, forensic police and other police who have similar work since the public have paid for same tax and they have problems, they must to police station for taking a complaints. And inquiry officials must work to resolve the problems for the public. This is very important for motivating the inquiry officials to work the best and full of confidence.

3) Position appointment for inquiry officials, nowadays there was not much appointment for inquiry official to get high rank in their sections, so most of them move to work at other sites such as traffic police, immigration police, some of them just the name freely at the position but themselves went to work with private

companies or did their own business and so on. Since they did not need to collect the evidence or make case file for going to the courts and they could be appointed faster than inquiry official side. Thus, must upgrade them to get higher position in the administration side or better than the present position.

4) Focus on inquiry officials who were responsible for function more and more so that some cases were successful such as inquiry officials go to work even how late at night, they have to go when they know that there was a crime happened in order to protect the crime scene and tell the specialists to go to crime scene for help.

5) Should combine the documents of inquiry and investigative officials as one unity and exhibition center for exact evident collection.

6.1.3. The Investigators

1) Giving more power for searching, ask other documents for investigators such as being able to check the communication in mobile phone quickly since in the past, investigators had to ask for data in person and so on. Sometimes when they want to search for data in someone's phone, they are rejected and sometimes they could not get all needed data or some were too late to arrest the offenders in time.

2) Giving more special budgets for investigators because they responded on investigation the wrong-doers, offenders tracing must spend money on travelling, residence, foods, news, and in the past years, there were many cases related to burglary. Normally police officer kept the fingerprint of theft by AFIS system or power, forensic machine bumbing until recognize the villains where they had lived, but opposite way, there was no any officer travels to arrest.

3) Add quantity of investigators and manage modern investigative training since crime nowadays has been developed such as economic crime, transnational crime, computer crime and electronic crime and so on.

6.1.4 Forensic Medical Science

1) Increase more forensic physicians, whereas forensic doctors have to go for performing the autopsy found that there was less quantity of forensic doctor even in criminal procedure code allowed doctors from public hospitals to perform, not still

enough since some physicians were busy to treat the patients at hospitals, some were too tired to go because there were many works to do, and some were girls doctors that could not go to work far or at night.

2) Problem of coordinating among related agencies concerning with evidence such as sending the dead body to hospital for performing, but in Cambodia there was such a service as researcher had mentioned about that most of forensic physicians just used their small knives to cut any part of body for examining by eyes (without technological tools), and the left parts leave at the same place if there was one dead body lying the field or something and collect soot of gun. Sometimes forensic doctors in the public hospital were lack of knowledge about forensic science like autopsy. They did not know where they had to collect and whom they were going to send to, that's their faces the problem of coordination with each other. Some kinds of evidence were sent, some of inquiry officials did not accept because they did not understand or have the knowledge of forensic science whether they should keep that evidence or not. Whereas police officer kept only evidence where get the suspect, and they did not collect from the victims or related persons so that it was hard to analyze the result of evidence examination of examiner or that case could be completed such a dead case. Only suspect was sent to check DNA, but related people or surrounded ones would not be sent.

3) Not only collect the evidence from the suspect, but also evident collection must be collected from all related people and kept at medical exhibit room in order to compare with each other.

6.1.5 The Prosecution of Attorney

1) Provide more forensic knowledge and forensic science for attorney to recognize that forensic evidence is more important than witness.

2) For the cases that had the problem of prosecution, must understand the criminal procedure code, discuss with evident examiners and be ready to prosecute that case such as gun and bullet examination, for example bullet .223 that is a war gun used with small gun M 16 and HK for understanding whether what kinds of bullets exactly.

6.1.6 Bringing the Case to the Court and Case Trial

1) Provide more forensic knowledge and forensic science for both attorney and court in order to recognize the importance of forensic evidence more than witness.

2) Bringing the real evidence to the court because the court would consider evidence of the case file, even though how good outside evidence was. If that evidence would not bring to the court, it meant that there was no that evidence.

3) Questioning during the case trial, forensic questions would be asked by professional lawyers, in which it did not attack to the questions, but attack to witness themselves, for example there was one case that a man killed by someone in Phnom Penh, there was no empirical evidence but environmental evidence who saw the suspect stayed around the crime scene. Prosecutor had asked about catching fish at night, but there was one asked back what kind of fish you caught at night. So the prosecutor could not answer back so that the case would be dismissed.

4) Bringing the plaintiff's evidence, in criminal case plaintiff had to investigate the evidence first all the time, and there was only one time for presenting the evidence at the court. After that it was the chance for defendant through the code in Cambodia because if the first presentation and still had suspected points was the problem. If there was no doubt, there was still lawyer asked what defendant brought evidence to investigate, there was no chance for plaintiff to reform anymore.

5) The evidence that inquiry officials and evident examiners found at the crime scene, bring them to the court to help diagnose for that case. Witness was not vital like examined evidence for all the cases.

6.1.7 Special Considerations

Nowadays, there were many problems related to chain of custody because a number of cases found that the evidence, in which collected from the crime scene, but could be reached to the court cause of plenty of reasons such as loss, no sending to other people, or intentionally not to send. Thus, we must have a chain of custody for controlling the evidence and have more regulations.

2) Crime scene protection and keeping is the most important because it was the first place of investigation or could be first step of justice system because there was much evidence over there. If we could collect the evidence correctly, we

might find the guilty or purity of related people. However, so far there were many cases that do not maintain the crime scene correctly or in time so that outsiders came to destroy or made them disappeared, and the Police Line in Cambodia was not sacrificed enough since many people were still exploitative.

3) Integration of every side, should set the meeting for discussing about process of any case closely in every agency such as inquiry officials, investigators, evident examiners, forensic police, specialist teachers of universities, prosecutors who filed the complaints, for example, there was one case happens in Takeo Province (near Vietnam border), so all related agencies must set the meeting for finding the best resolution of that case closely in order to get more successful.

6.2 Suggestions for Forensic Science Development of Cambodia

Researcher has suggested for developing forensic science in order to collect the evidence, examine the evidence and autopsy in Cambodia. There were two suggestions for strategic development where collected and combined from experts as following:

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6.2.1 Operational Suggestion

1) High commanders who were in the position of police colonels should have the vision on work and gave the importance of forensic science such as crime scene investigation, and evident examination to make investigative work better than before in Cambodia.

2) Inquiry officials should work the best for making the cases more successful such as inquiry officials have to stay in turn strictly even the crime causes at the late night, they also hurried to go to protect and maintain the crime scene like a correct evident collection through the procedure of code and so on.

3) should record, take photos or videos at the place of evidence stay in crime scene to clarify that that evidence is collected from real crime scene, and can be brought to confirm at the court as well, in which record the videos-the court would listen more.

4) Inquiry officials should understand about relation between evidence and offenders rely on forensic evidence as much as possible for arresting the criminal easily.

5) Inquiry officials should coordinate with evident examiners in order to check evidence correct concerning with connection between evidence at the crime scene for inquiry officials are easy to make file cases, and enough evidence before going to the court for filing the complaint. The evidence will be reliable and trustful enough and prosecutor will file for the next.

6) Evident examination should be assigned by evident examiners through its easiness or difficulty of that evidence with examiners, for example when there is key case, should provide the responsibility to professional forensic scientist because sometimes we need use high knowledge and experiences. If assigned this case to inexperienced people, it could face with high risk and failure.

7) In the case of autopsy performing, forensic doctors should inform relatives of dead people in details and necessity of performing for finding the cause of death through forensic evidence.

8) Organization Structure

The options for structural change are limited and rely heavily on the Cambodian authorities to act. The police structures operating in Cambodia are complex and heavily resourced due to de-mobbing of the armed forces. Significant downsizing of MOI is occurring but this will be a medium term process over the next four years.

Linkage of central and provincial structures is also desirable so that uniform standards and procedures can be developed, which is very important for forensic services and their acceptance by the Cambodian community in displacing confessional evidence.

9) Procedural Development

The operating procedures developed during Phase I are an excellent starting point for the judicial police, including the S&T groups, to move forward. From these procedures and the modular forensic unit program, a set of forensic procedures can be designed, emphasizing evidence recovery and provision of expert advice to the courts. These procedures not only start the links between training, methods, laboratory practices, reporting and the establishment of essential forensic quality management

systems, but also the linkage and consistency between central and provincial forensic services. The other large task for procedural improvement is that of the funding structure between the two levels. The unavailability of money for scientific consumables at both levels undermines the sustainability of forensic support and therefore undermines the impact the displacing of confessional evidence has, in the area of human rights.

10) Training

Training to date has been basic and fragmented but the start made can now be capitalized upon with clearer direction and application to the real needs of Cambodia rather than the perceived needs based on experiences in other countries with very different issues to Cambodia. Specific forensic training modules need to be developed for integration into Phase II at appropriate stages, providing strengthening at provincial level and basic capability at district level. This training needs to be approached from the forensic service viewpoint as training to date has been based on police operational requirements which has not focused strongly on scientific outcomes. Forensic science processes need to be established so that the basis of results is reliable and robust.

There is a strong need to develop forensic SOP's to compliment the operational procedures developed in Phase II. The major impact of these existing operating procedures has been wider than the Phase I provinces. They have been formally approved (as a Prakas) and adopted broadly across the country although not uniformly. Phase II can further consolidate this and add specific forensic procedures to the operating procedures. National

Manuals (limited) can be provided, supporting linkage across the levels, and provide working information for the S&T police over and above, but complimentary to the procedures developed so far.

The approach recommended in Phase II is to strengthen Central S&T through re-commissioning their equipment, re-training and consolidation of that training through assessment/authorization of skills transfer. Adviser support will also encourage awareness of budget implications for equipment maintenance and consumables and while some funding is included for equipment the resolution of this problem and on-going funding is a matter for the RGOC.

Strengthening of existing forensic training is preferred to extended capability training as the basic skill set commenced in Phase I is still appropriate.

Extension into blood typing and similar more advanced techniques is not required and cannot be supported now or in the future without a solid base, which will need to be finalised in Phase II.

Further, drug testing is well covered by the National Authority for Combating Drugs (NACD) established with the support of the United Nations Drug Control Project (UNDCP). This facility has sterile laboratory accommodation suitable for their work and capability far beyond the S&T Police on the same site at MOI Central. It would suffice to have S&T police spot-test suspected drugs, and refer positives to the NACD. S&T drug spot test kits are chronically out of date but this could be rectified by NACD providing refreshed spot test kits.

12) Information Management Systems

It is likely that linked information management systems are still some way off for Cambodia, which is not to say that local use of IT should not occur. Some success is already evident from Phase I but extension to network level is still not warranted for S&T services at this time, and the reliability of such linkages would be seriously challenged. The Archives Section within the Central S&T Office is the area responsibility for storing and recording criminal offence reports and fingerprints. It is proposed to provide adviser support to the determination of feasibility for converting the existing hard copy manual system into a computerised system either through an “off the shelf” package or one which is built to established specifications.

13) Human Rights Issues

The availability of forensic services even in the most basic form assists in the process toward improved human rights. Particularly evident in countries that have been subjected to extended periods of conflict both internally and from invading forces, is a stark absence of human rights. The value of life is low and issues (including criminal matters) are primarily resolved by quick apprehension of suspects/offenders, obtaining a ‘confession’, and meting out of summary justice often execution. Forensic evidence goes a long way in alleviating confessional evidence as the only evidence. It provides the opportunity to evaluate the inclusion or exclusion of suspects from criminal investigation without resort to violence (even torture) for confessions. The Judicial

Police already appreciate the value such forensic evidence can have, not just in assisting investigations but also for presentation of the case in court. The courts have readily accepted police forensic evidence and are seeking further capabilities in this area to assist their role in deciding issues based on physical evidence more than on weighing up contrary accounts from witnesses. In Phase II it is anticipated that human rights will be even further improved by the extension of forensic capability down to District level in Phase I provinces, and development of forensic services in Phase II sites. It cannot be over-emphasised that the provision of the option to seek and present forensic supporting evidence has a significant impact improving human rights through the removal of the total reliance on 'confessional evidence'.

14) Risks

Technical Advisers

Technical advice in Phase II will need to include forensic service strengthening and extension from a forensic specialist viewpoint rather than the perspective of an investigator. This is not to unduly criticise the very successful efforts of the Phase I police advisers but rather to state a change of emphasis which is necessary to maximise the forensic benefits in Phase II and for the future. This advice will not need a constant presence in terms of a full-time adviser. Monitoring and periodic attendance from a suitable forensic specialist will ensure programs are specific and technically sound to meet the immediate needs of the Cambodian justice system at its current stage and to ensure transfer of these skills and knowledge for future development.

15) Lack of Co-ordination of Existing Improvement Programs

Difficulty has been experienced in coordinating training across Phase I Provinces and in gaining consistency between central and provincial programs. Much of the latter problem lies within the current structure of government in Cambodia where linkages between central and provincial processes are weak and variable within different Government Departments such as MOI and MOJ. The program embarked upon by MOI in late 2000 sought to deliver training to non-project areas. The trainers were given a limited "training of trainers" program. CCJAP Phase 1 provided excellent material to trainers for dissemination through relevant areas of the judicial police only to find that MOI then selected many junior officers as trainers. These staff lacked experience and therefore credibility, to deliver these training programs to provincial

areas. It was clear to experienced field operators that these trainers had less knowledge than they did, and the program was not regarded as successful by the provincial police who participated.

This is a key element for the Phase II Training Component activities, where the overall training approach is revisited with a view to developing sustainable training capacity within the sector. It is critical that Cambodian trainers are developed to manage the ongoing training of existing and new staff in the future. Also, for Phase II a more comprehensive, planned, inter-linked and targeted forensic training program is needed. This will require mentor training initially with transfer of skills to Cambodian trainers, for sustainability of basic forensic training into the future. The highly modular form of forensic training programs, including references, competencies, and learning outcomes will facilitate this task.

16) Ownership by Royal Government of Cambodia (RGOC)

The ownership in Phase I Provinces is high and relies quite a bit on the capacity and drive of key counterparts. This is in contrast to Central MOI S& T where some staffs demonstrate high ownership while others are at the opposite end of the spectrum. A contributing factor to this variable attitude is the unique situation within Phnom Penh where the local judicial police have quite a large and active S&T section. There appears to be a blurring of responsibility in relation to which group has the mandate to attend crime scenes in the Capital. Central S&T claim that they have responsibility for attending major crime scenes. While this is the assertion, the reality appears quite different. A further complicating issue is the actual definition of what is or is not a major crime. The role confusion discussed above coupled with equipment shortages has not provided an environment conducive to good practice.

17) Economics

As discussed above, without greater financial commitment by the RGOC the effectiveness and sustainability of the Project is at risk. For the full and substantial benefits to be realised, the Cambodian Government will need to increase present budgets to ensure sustainability. Equipment both centrally and provincially must be able to be repaired, consumables must be supplied and systems for transfer of exhibits between provinces and the MOI must occur routinely. The capabilities necessarily limited to, and available at Central S&T, must be maintained and readily accessible by

not only Project provinces but nationally. The ability the RGOC to adequately fund the criminal justice system agencies is a major risk to the considerable benefits that the Project can provide, including forensic services.

6.2.2 Policy Suggestion

1. General Commissariat of National Police, Cambodia, should invite retired forensic scientists who had experiences related to forensic science to help the government by appointing them as advisors, in which so far the mentioned people above help to introduce and give the recommendation to new forensic scientist or inquiry officials who go to work at the crime scene.

2. General Commissariat of National Police should create independent forensic team for working together including evident analysts to connect with criminals and collect the data for making statistics the crime in Cambodia.

3. Should adjust criminal database system and identity examination since in the present day, there was no data connection with identification department, so should have data integration with all related agencies-ministry of interior (department of identification), ministry of public works and transport (vehicle data), and ministry of economy and finance (financial legal lending) for getting convenient to reach the data and assign specific coordinators to become law and order.

4. General Commissariat of National Police should manage crime scene investigators standby at every police station for being easy to go to the crime scene when the crime happens, and all police officers are under Department of Scientific Technical Police, ministry interior.

5. The government should support much budget more in work practice, buying forensic tools, evident examination, and security insurance, and should add special money for police officers who go to crime scene for any case.

6. General Commissariat of National Police should add more tools, things, and forensic instruments enough for working, especially the tools for crime scene investigation, evident examination and bulletproof armors and so on.

7. General Commissariat of National Police should use standard system for work practice such a global standard crime scene management, in which it can make the crime scene management more efficient.

8. General Commissariat of National Police should develop work system of regional inquiry police officers by limiting to collect the evidence somehow to get enough, correct, and the most important to custody of evidence all the time.

9. Should assign more police officers to work with evident examination since nowadays there are approximately 145 forensic police officers all over Cambodia.

10. Should consider and adjust the law to get convenient for present modern society for police officers for collecting the evidence to file to attorney.

11. Should make rooms for performing the autopsy for all forensic police officers in the future since right now there is no such a room for working in Cambodia.

12. Should send police officers as much as possible to study how to use forensic tools, performing the autopsy, and other skills related to forensic science.

13. Should add more forensic doctors at Department of Scientific Technical Police, because now there is no forensic doctor over there. In the future, if possible, police can be doctors who have skills in performing the autopsy. Adding such forensic doctors will be able to help other forensic ones who are old or retired or tired because of many cases happened.

14. Political Environment

While Cambodia appears to be enjoying a relatively stable political phase, there is still some uncertainty and a feeling of caution about committing to any program in case such programs 'fall out of favour' due to political change. Given the country's history this is not difficult to understand, but it does constitute some risk to the full success of this Project. In terms of forensic services, this risk is no greater than to any other part of the Project.

15. Development of Forensic Service Ethos

Phase I has clearly demonstrated that acceptance of forensic evidence is now routine in relevant provinces and there is no reason why this ethos cannot extend to Phase II sites. It will not be possible in the short term to extend this to all provinces unless funding for basic equipment is available and staff have access to training. The work of S&T police, although at this stage basic, is of a good quality and satisfies international standards in this area. Extension of these capabilities, in line with current Cambodian needs, will further develop the forensic ethos providing a strong basis for the judicial

police to move further away from any reliance on confessional evidence. The base set in Phase I is solid and certainly capable of building on in Phase II.

16. Institutional Strengthening

The proposed design for CCJAP Phase II has a strong institutional strengthening focus. Within the forensic science activities, the design seeks to continue and extend support at provincial level accompanied by support to the Central S&T office, the designated responsible central area for forensic services. The accepted routine use of forensic evidence in all criminal investigations will strengthen the judicial police's image with the community and their role as trusted, competent, reliable investigators supporting the prosecutors and the courts in the justice process. The need in the forensic (S&T) area now is for some specific training packages that move on from the general, broad based training available through the Project in relation to police procedures. This training has introduced the basic understanding of forensic services from a police operational point of view, but does not address forensic training needs specific to enhancing and developing greater skills in forensic investigation, examination, analysis and reporting.

This will require the next level of training from forensic experts and should be presented in the form of Methods and Training Manuals, covering the specific needs of the Cambodian justice system as it evolves over the next Phase. This does not require full time advisers but rather a series of short term, intensive training with follow up assessment at critical milestones throughout Phase II.

Such training would result in the S&T areas being provided with manuals as a reference point and programs on which to train others in future.

Forensic operational procedures will need to be developed in Phase II so that the S&T areas operate according to relevant international standards and on the basis of sound processes that as far as possible guarantee the quality and reliability of the forensic evidence.

17. All related agencies in Cambodia who have experiences about forensic science should share and train to police officers in charge or publish as a book for delivering to the public.

18. Since lack of national planning, so government should set national strategic plan for every sector in Cambodia. It was patently clear at every interview

with the judicial police and the courts, that co-ordination of effort between central headquarters and the Provinces is minimal at best. There appears to be system where money for provincial offices of both the police (MOI) and the courts (MOJ) is distributed via the provincial Governors and is then allocated from there. Corruption and political affiliation also influence this process. Lack of funds at both central and Provincial levels means an ‘unofficial’ system of cross charging takes place with forensic examination not occurring due to lack of funds.

19. Government should strengthen on management, supervision and “self-starting”. This is a significant problem, but more so centrally than provincially in regard to Department of Scientific Technical Police. There is no evident understanding or motivation toward improving their situation through sharing resources or diluting the boundaries between the very rigid divisions that have established between the various forensic disciplines. In some provinces, where Phase IV had a presence, there is some cooperative spirit and effort between the areas. This was not really evident in other provinces. Centrally there appears to be little work although samples are referred from Provinces. It seems that Phnom Penh police do most crime scene work around the Capital, with the central Ministry of Interior, Department of Scientific Technical Police group being called for ‘major crime’ only.

20. Since in present time, there is no National Forensic Science (NFS), so the institution of forensic examination is at Department of Scientific Technical Police under ministry of interior. We need an independent, science-based federal agency with strong ties to state and local forensic entities, but not in any way committed to an existing system or part of a law enforcement agency attempt to create an independent institute. All subsequent recommendations are tied to this initial provision. Remains committed to the advancement of the field of firearm and tool mark identification and looks forward to diligently working with whatever entity may eventually become responsible for the forensic enterprise in Cambodia. The stakes are too high to do anything less. It is good if independent forensic science is quite fair for all people who have the case to examine. If the any department is under other ministry of institution, it will be unjust or unfair because of exploitation, friendship, power, money, relationship and other reasons, in which provides unjust results.

21. Government should support Scientific Research on Forensic Practices, after creating the National Forensic Science, should competitively fund peer-reviewed research on the accuracy, reliability and validity of forensic science disciplines and quantify the uncertainty of disciplines.

22. General Commissariat of National Police, Ministry of Interior should set Standards for Forensic Practice, should coordinate with National Institute of Standards and Technology (NIST) after created and the Scientific Working Groups at the Department of Scientific Technical Police in efforts to develop forensic tools for measurement, validation, reliability, information sharing and proficiency testing in forensic science of Cambodia; and also to establish protocols for forensic examinations, methods and practices.

23. Government or other agencies concerning with justice system-forensic science should create “Check Balance” since nowadays there is no Check Balance in Cambodia. This system plays important roles to trace or search for the truth of forensic science examination while its results are not acceptable by the public or there is an unusual case happened.

6.2.2 Suggestion from SWOT Analysis in This Study

1) Prepare to have long course for forensic police, and also set study program at universities in Cambodia.

2) Development the database, improvement of forensic tools related to forensic science in Cambodia.

3) Correction of forensic police system since some police who graduated from other countries did work direct skill learnt.

4) Forensic specialists are invited to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.

5) Plan and draft are used for collecting the evidence and the participations from the public for other processes related to forensic science in Cambodia.

6) Survey the obstacles in forensic science process that happened from other agencies, specifically the cause happened because of delaying related to

technical process and concerning principles such as failure from fact examination, and evidence collection and manage handbook for better work and reduce the delay of work practice.

7) Coordinate with schools, mainly forensic science institute to manage students come to do an internship for receiving the experiences related to forensic science or forensic police who got scholarship, must come and work at Department of Scientific Technical Police, Ministry of Justice.

8) Try to find forensic technology to help in police work such as evident examination, and autopsy and so on.

9) Trying to use technology to help is a important way since we could one forensic police or forensic scientist for one crime, so we could reduce personnel for going to the crime scene, however forensic police are necessary to apply as much as possible for forensic work nowadays.

10) Manage to find clear consideration on evident collection and evident examination.

11) Manage the e-learning for forensic police who could come and study easily about how to collect and examine the evidence correctly in the future.

12) Trying to find empowerment and the public participation

13) Allow the public to participate with police, that, useful to be witness and get the clues for arresting the offenders.

14) Manage e-learning for forensic police who could come and study easily about how to collect and examine the evidence correctly in the future.

15) Prepare the plan for funding on order to support for transportation, buying forensic tools and something convenient for forensic work.

16) Invited retired forensic experts to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.

17) Set the policy for helping the foreign investors if they have problems and hurry to process the cases first before preceding the local cases since it had many benefits for the country.

18) Forensic specialists are invited to lecture about foreign forensic science during training course for urging to become lesson learning and creative thinking, in which could be used for developing new keys to forensic work to get more efficiency.

19) Prepare the plan for funding on order to support for transportation, buying forensic tools and something convenient for forensic work.

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APPENDIX



Certificate of MU-SSIRB Approval



Certificate of Approval No.: 2015/316.0810
MU-SSIRB No.: 2015/364 (R1)
Title of Project: STRATEGIC DEVELOPMENT ON FORENSIC SCIENCE IN CAMBODIA FOR ASIAN COMMUNITY
Principal Investigator: Mr. Phum Saroun
Name of Institution: Faculty of Social Sciences and Humanities, Mahidol University
Approval includes:
1) MU-SSIRB Submission form version received date 21 August 2015
2) Participant information sheet for Questionnaire version date 21 August 2015
3) Informed consent form version 21 August 2015
4) Questionnaire Guidelines version received date 21 August 2015

The Committee for Research Ethics (Social Sciences) is in full compliance with International Guidelines of Human Research Protection such as Declaration of Helsinki, The Belmont Report, CIOMS Guidelines and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP)

Date of Approval: October 6, 2015
Date of Expiration: October 6, 2016

Chairman

Handwritten signature of the Chairwoman, Dr. Santhal Seemsa.

(Emeritus Professor Dr. Santhal Seemsa)

Head of the Institute

Handwritten signature of the Head of the Institute, Assoc. Prof. Dr. Wariya Chinnawong.

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