Vol. 2, No. 1, January-June, 2013
Print ISSN: 2227-0302
Online ISSN: 2227-3840

International Journal of Business and Development Research (IJBDR)

BBU
Cambodia
bbu.edu.kh

International Journal of Business and Development Research (IJBDR)

Vol. 2, No. 1, January-June, 2013

Publisher
Dr. In Viracheat
Chairman
Build Bright University Council
Cambodia

Printer
Prof. Diep Seiha
President
Build Bright University
Cambodia

Editor-in- Chief
Prof. Tapas R. Dash
Vice President, Graduate Studies and Research
Build Bright University
Cambodia

Printed at
Ponleu Khmer Printing & Publishing House
No. 491Eo-51E1, Street 109, Sangkat Vealvong,
Khan 7 Makara, Phnom Penh, Cambodia
Phone: (855)-23 885 411

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, Jan-June, 2013

Contents

1. Changing Preferences of Indian Customers towards Combinations of Services offered through Credit Cards: A Conjoint Analysis 1-15
- *Saraju Prasad, S.V. Ramana Rao and Naliniprava Tripathy*

2. Quality in Higher Education in Cambodia – A Perception Analysis 16-22
- *In Viracheat*

3. Representing Human Resource Planning through Graphs 23-29
- *Sujit Kumar Acharya and Ajit Kumar Acharya*

4. An Association between Management Factors and Performance of Rural Microenterprises in Cambodia 30-41
- *Diep Seiha*

5. Province-wise Growth of Primary Education in Cambodia 42-65
- *Manaranjan Behera and Prum Sarin*

6. Resource Potential for Tourism Development – A Study of Capital City of Cambodia 66-86
- *Tan Saroeun*

7. Flows of Foreign Aid and its Impact on Economic Growth of CMLV Nations of South-East Asia 87-92
- *Kim Kanika*

8. Asset and Liability Management and its Effects on Banking Operation – with special reference to ACLEDA Bank Plc., Cambodia 93-98
- *Ung Sam Ol*

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 1-15

Changing Preferences of Indian Customers towards Combinations of Services offered through Credit Cards: A Conjoint Analysis

Saraju Prasad[1], S.V. Ramana Rao[2] and Naliniprava Tripathy[3]

ABSTRACT

Over the past two decades, credit cards have become increasingly available to households. Non-cash transactions have become the order of the day since the customers make more and more electronic forms of payment in the modern economy. Hence, it becomes important to understand the customers' preferences towards credit cards offered by growing number of banks. Technological innovation and customization of products are enabling the banks to remain competitive in the market place. Credit risk along with market and operational risk are the real challenges for any bank. Sustainable service innovations in credit cards change the Indian customers' preferences. Indian customers have given a variable utility value to innovative features at different times. Keeping this in view, the present paper has made an attempt to determine the customers' change in preference for different combinations of services during the time periods of 2002-05 and 2006-09 by using the Conjoint Analysis. The major attributes like credit facilities, extent of cash withdrawal facility and various schemes are taken for the Conjoint Analysis to study the extent of requirement in the near future. Further, customers have given choices to opt the best combinations of facilities through the utility score. The study finds from the analysis that credit period is the most important factor to consider for the future sales, and discount in sales is the least important factor. Therefore, the change in discount is not going to affect the future sales.

Key Words: Credit Cards, Conjoint Analysis, Customers

1. Introduction

A credit card is a preapproved loan with flexible repayment options; it is distinguished from other financial instruments by the freedom it gives borrowers to determine the size of the loan and the pace at which it is repaid. A credit card enables card holders to buy goods, travel and dine in a hotel without making immediate payment. Card holders can avail credit with varying credit periods depending on bank offerings. The credit card relieves the customer from the tension of carrying cash and ensures safety. It is the convenience of

[1] Associate Dean, Regional College of Management (A), Bhubaneswar, India, E-mail: saraju_prasad@rediffmail.com

[2] Director (Academic), Siva Sivani Institute of Management, Secunderabad, India. Mobile (91) 97 01009955, E-mail: ramanarao@ssim.ac.in/sindhe_rao@yahoo.co.in

[3] Associate Professor (Finance), Indian Institute of Management, Shillong, India. Mobile (91) 364 2308037, E-mail: nalini_prava@yahoo.co.in/ nt@iimshillong.in

extended credit without formality. So credit card is a passport to safety, convenience, prestige and credit. Increasing competition, growing risks, profitability and market share are major challenges to banking industry. Reduction in costs, particularly transaction costs, improved efficiency, technological innovation and customized products are the order of the day in banking circles.

Despite the remarkable growth in the card business at worldwide level, each country has experienced a different spread and mix in electronic forms of payment. While credit cards are a convenient way to pay for products and services, consumers can sometimes use credit unwisely, carry high balances, and frequently pay only the minimum amount on each card they hold. Credit risk along with market and operational risk are the real challenges for any bank. There are several risks involved in giving retail loans. They are mainly: deficiencies in lending policies, incorrect product structuring, inadequate loan documentation, deficiencies in credit appraisal, absence of post sanction surveillance and monitoring, inadequate risk pricing, inadequately defined landing limits and weak collection strategy. All these decisions have had risk implications. So, banks need to consider the implication of these factors for the healthy growth of bank.

In addition, there are several critical success factors for banks, such as a wider distribution network, low-cost funding, low operation costs, marketing capability, large product portfolio, cross-selling, proper credit appraisal mechanism/ risk assessment procedures, high service levels in terms of faster loan processing and disbursement, flexible technology across banking platforms, multi-distribution channels, strong brand presence and a good recovery mechanism. The contribution of these success factors to a bank will depend on how well banks understand their customers, and how effective they meet new definition of access, convenience and value.

Banks are also facing another critical challenge, that is establishing customer intimacy because of shifting loyalties. In the financial world, products cannot be differentiated for long, because they are relatively easy to copy. So, operational excellence, understanding the customer and developing the rapport with them have become inevitable.

To remain in competition in retail banking, banks need to operate efficiently, package and deliver products on time, leveraging the multiple channels of delivery such as the internet and the ATMs. With a view to contain the cost of bank operations, banks are building collaborative relationships and working towards converting the network of bank branches into “financial supermarkets”.

Indian players are very speculative about growth in retail banking. The future of the retail banking is dependent on technology and marketing. Technology facilitates reduction in transaction cost and provides the ability to do business in volumes. Banks have to prepare themselves to face soft interest regime. Now different kinds of management skills are required to manage the retail lending portfolio. Growth in retail banking can be accelerated, when public sector banks become proactive because they are commanding an 80 per cent market of the Indian banking industry.

A wide range of local and international cards are present in the market, and issued by a large number of different financial institutions. Although market leaders and followers have already been established; the situation in the market is still very fragile and a huge potential for further penetration exists. As is known in the financial services sector, products can easily be copied by competitors, so the advantages of innovation diminish rapidly after the introduction of a new product, or the enhancement of an existing one. The same applies

to credit and charge cards where card issuers often copy the services provided by their competitors.

2. Literature Review

Hirschman (1979) focused her research on the influence of method of payment on purchasing behaviour and found that cardholders are more likely to make bigger purchases than non-holders. This finding suggests that credit cards facilitate and induce purchases, as compared to cash.

Kaynak and Ugur (1984) conducted a cross-cultural study of credit card usage behavior of Canadian and American cardholders. In the first stage of their research, cardholders' attitudes towards credit cards were evaluated. Both categories of cardholders agreed that credit cards are useful in a sense that cards are safer than cash and help making impulse buying payments. The finding was that both Americans and Canadians show similar pattern in attitudes towards ownership of credit cards, but their behavioral characteristics are different.

Kanyak *et al.* (1995) conducted the study on credit card usage in Turkey and their findings suggest that respondents with lower and middle income and with high school and less education who use credit cards are likely to value the credit feature more than the service features, such as safety and convenience.

Warwick and Mansfield (2000) studied the attitudes of college students towards the aggressive promotion of credit card industry. Findings of the study show that the majority of college students who own credit cards do not actively seek them out, but are aggressively pursued through the mail and on-campus by credit card issuers. With regard to students' knowledge of 'Changing Perception of Indian Customers towards Credit Cards', the majority of students did not report knowing the interest rate they were paying.

Devlin *et al.* (2007) study seeks to extend knowledge about credit cards by investigating two matters relating to consumers who are multiple cardholders. The study found that high income earners and higher educated respondents are making more use of their credit cards and value them in a more favorable manner and derive more satisfaction from their use. On the other hand, sex, age and employment are found to be insignificant factors in the levels of satisfaction with their credit cards. These disputes lead researchers to focus attention on the credit card industry.

Charles (2008) attempted to find out answer for a common question that is what is the compelling reason for a college student to own and use a credit card? The author has contributed to the marketing literature by developing and validating a scale that measures college students' choice criteria of credit cards by using exploratory and confirmatory factor analyses and found four key criteria that were named by the author as buying power, incentives, firm's reputation, and good credit rating.

Wickramasinghe and Gurugamage (2009) explored credit card ownership and usage practices in Sri Lanka to find out the relationship between credit card ownership and usage practices, and demographic and socio-economic characteristics of credit card users. Eight demographic and socio-economic characteristics of credit card users were investigated, namely, age, sex, marital status, the level of education, the number of dependents in the family, monthly income, the length of credit card ownership and credit card debt ceiling in the study. It was found that respondents were aware of the four broad aspects of credit cards, namely, personal financial literacy, complimentary/competitive credit card systems, credit risk and alternative forms of credit and also found that respondents had four broad motives for using credit cards. This study has given direction on motives for holding credit cards by customers and awareness of it in

Sri Lanka.

Subramanian (2010) attempted to understand awareness of the credit cards and satisfaction level of customers and also test the association between awareness and satisfaction of cardholders in banks. The author found that cardholders are satisfied on the awareness level of the card being issued by the banks. Further, the study reveals that multiple cardholders were more satisfied than single cardholders. Varieties of banks' cards and their services were preferred by them. Services like wider acceptability, discount on purchase and quick processing, popularity and convenience services of bill payment options have to be increased for further satisfaction. The study helped to know the awareness level among the customers on credit cards and satisfaction level.

Khurana and Singh (2011) studied on to identify the factors that influence the choices of credit card, customer satisfaction and consumer behavior regarding the credit card in Tier III cities like Hissar (India). The study has revealed that the choice of credit cards depends upon income, gender and profession of the respondent and found that customer satisfaction depends upon income, frequency of usage in a month and amount of usage per month. The authors opined that banks should increase the target segment by introducing different cards for different purposes, and should go for more promotional campaign to provide more information to customers as the result of the survey shows usage of credit cards at various places is very less which means that customers are less aware of various uses of credit cards. Banks should add some more features to credit card which will help the user to save more time and also reduce cumbersome processes. This study has provided inputs on customers staying in Tier III cities preferences while choosing credit cards and the effect of demographic profiles.

Pulina (2011) analyzed the demographic, socio-economic and banking-specific determinants that influence the choice of credit cards by using Multinomial Logit Model, which incorporates type of credit cards as the dependent variable and a set of explanatory variables. The study found that women, older people and residents in the center of Italy are likely to acquire a classic card. Gold cards are preferred by older customers, whereas, younger clients have a higher probability to choose a revolving card. The market is considered to be 'conservative' with possible further grounds of expansion into more sophisticated products. Gender, age, location, type of circuit, card ownership, credit line and type of expenditure are influencing factor for card choice. This study has added to the literature with regard to customers' preference in Italy based on demographic characteristics.

Tripathy *et al.* (2012) studied on perception of Indian customers' features and attributes of credit card products by using Multi-Dimensional Scaling Model. This exploratory study signifies that the customers' preferences can be changed with the change in value added services available with different brands of credit cards. MDS I and MDS II have been conducted in different timings with different sample of people, and have given the similar kind of perceptual map of highest rank to State Bank of India (SBI) and Industrial Credit and Investment Corporation of India (ICICI) respectively. Customers have given highest priority to the factors like risk free factors and service. In both the cases, customers' dimensions are changed but it does not have any influence towards perception of the customers on most prioritized brands (i.e., SBI and ICICI). The authors concluded that financial institutions/banks should have the clear vision and mission that should be known to the stakeholders, i.e., customers, employees, agents and business associates.

3. Objectives

The present study has made an attempt to study the key features and service attributes combinations responsible for the preferred brand of credit card. Also the study aims to find out the innovative features of different brands of credit cards responsible for the change in utility values assigned by the customers. Finally, the change in combinations of services preferred by the respondents at two different durations of 2002-05 (Sample-I) and 2006-09 (Sample-II) is studied.

4. Hypotheses

H_0 = The key attributes perceived by the customer are more important than the rest attributes present in different brands of credit cards.

H_1 = The key attributes perceived by the customer are less important than the rest attributes present in different brands of credit cards.

5. Research Methodology

The data for this study have been collected during 2002-05 and 2006-2009 from a convenience sample of 400 mid-age couples from different cities, i.e., Bhubaneswar, Hyderabad, Mumbai and Kolkata. In this study, mostly questionnaire method has been used to collect the data. Sample size of 400 customers has been taken for the primary research during the duration of 2002-05. Another sample size of 400 customers has been taken for the primary research during the duration of 2006-09.

Conjoint Analysis has been used to convert ordinal scale ranking given by respondents into an interval scale 'value' or 'utility' scale. It has been done to calculate the different combinations of features of credit cards preferred by the most customers. On the basis of utility study, the exact combination of features has been predicted from the analysis. Two conjoint analyses have been conducted for two different time durations 2002-05 and 2006-09 respectively.

6. Data Analysis

6.1 Demographic Profile

Sample Set I:

In Sample Set I, the respondent's income below Rupees (Rs.) 5,000 is not considered on the total sample. In order to avoid the risk, those who are getting below Rs.5,000 may not be the suitable customer for the credit cards. The total sample size for the research during the period of 2002-2005 is 400. Out of the total respondents, 63 per cent are salaried employees, 20 per cent businessmen and 17 per cent professionals. About 86 per cent of the total respondents are coming under the income level of higher than Rs.10,000. Most of the people are above the age of 30 years old. About 90 per cent of the respondents are under the age of 30-60 years. Out of this, 39 per cent are under age 40-50 years, 28.6 per cent under age 30-40 years, and 22.4 per cent under age 50-60 years.

Sample Set II:

In Sample Set II, the respondent's income below Rs.10,000 is not considered on the total sample. In order to avoid the risk, those who are getting below Rs.10,000 may not be the suitable customer for the gold and platinum credit cards. Second set of sample during the period of 2006-09 is 400. Out of the total respondents, 54.7 per cent are salaried employees, 31 per cent businessmen and 14.2 per cent professionals. All most all respondents are coming under the income level of higher than Rs.10,000. Most of the people are coming above the age of 20 years. About 90 per cent of the respondents are coming under the age of 20-50 years. Out of this, 37.3 per cent are coming under age 20-30 years, 38.8 per cent under age 30-40 years, and 19 per cent under 40-50 years. The people who are very much aware of credit card are taken into consideration because the questions can be solved by the highly aware respondents only.

6.2 Conjoint Analysis

Conjoint Analysis I:

The first step in a Conjoint Analysis is to create the combinations of factor levels that are presented as product profiles to the subjects. Mostly three dimensions are considered with different values and the utility of each value is explained in the Conjoint Analysis. The utility scores and their standard errors for each factor level can be resulted through the Conjoint Analysis.

Table 1: Factors for Conjoint Analysis

Sl. No.	Factor	Values	Labels
1	Scheme	1, 2, 3, 4	M, I, D, W
2	Credit	1, 2, 3	3M, 6M, 9M
3	Cash	1, 2, 3	40P, 50P, 60P

The following factors are taken with values and labels for Conjoint Analysis in Table 1. For the first factor "Scheme", four schemes are taken like medi-claim facility (M, Assigned Value-1), insurance facility (I, Assigned Value-2), discounts facility for purchases (D, Assigned Value-3) and wide acceptance in different sectors (W, Assigned Value-4). For the second factor "Credit", three options have been taken like three months of credit facility (3M, Assigned Value-1), six months of credit facility (6M, Assigned Value-2) and nine months of credit facility (9M, Assigned Value-3). For the third factor "Cash", three options are taken like 40 per cent cash withdrawal capacity (40%, Assigned Value-1), 50 per cent cash withdrawal capacity (50%, Assigned Value-2), and 60 per cent cash withdrawal facility (60%, Assigned Value-3).

Table 2: Correlation Coefficients

Correlations[a]		
	Value	Sig.
Pearson's R	0.475	0.003
Kendall's tau	0.346	0.003
Kendall's tau for Holdouts	0.333	0.248
a. Correlations between observed and estimated preferences		

Table 2 displays two statistics, Pearson's R and Kendall's tau, which provide measures of the correlation between the observed and estimated preferences. The table also displays Kendall's tau for just the holdout profiles. Instead, the conjoint procedure computes correlations between the observed and predicted rank orders for these profiles as a check on the validity of the utilities. In these cases, the correlations for the holdout (i.e., 0.333) profiles may give a better indication of the fit of the model. The holdouts should always produce lower correlation coefficients than the Pearson's R

(0.475) and most essentially Kendall's tau (0.346) which is present here to indicate the best fit. The Pearson's R and Kendall's tau values are very much nearer to 0.5. Hence, the null hypothesis is accepted, which means:

H_0 = The key attributes perceived by the customer are more important than the rest attributes present in different brands of credit cards.

Hence, the rank order data can be considered for the Conjoint Analysis and the utilities calculated by the analysis is a valid one.

Table 3 shows the utility scores and their standard errors for each factor level. Higher utility values indicate greater preference. There is a direct relationship among all the factors' (Insurance, Discount and Wide Acceptance) utility of scheme except the Medi-claim factor which has inverse relationship. Scheme Medi-claim achieved the highest utility value (i.e., 4.221). The utility values show that higher credit period is being associated with higher utility (i.e., 8.881). The presence of higher cash withdrawal facilities corresponds to a higher utility (i.e., 3.528), as anticipated. Since the utilities are all expressed in a common unit, they can be added together to give the total utility of any combination. For example, the total utility of a credit card with scheme of Medi-claim M, credit period of nine months and 60 per cent cash withdrawal facility is:

Table 3: Factor-wise Utility Score and Standard Error

Factor	Factor Levels	Utility Estimate	Utility Score (Rank)	Std. Error
SCHEME	M	4.221	3	2.351
	I	-1.131	9	2.351
	D	-0.129	8	2.351
	W	-2.961	10	2.351
CREDIT	3M	2.960	5	1.637
	6M	5.921	2	3.275
	9M	8.881	1	4.912
CASH	40P	1.176	7	1.637
	50P	2.352	6	3.275
	60P	3.528	4	4.912
Constant		**9.261**		**4.273**

Total Utility Score = Utility (Scheme M) + Utility (Credit Period 9M) + Utility (60% of Cash withdrawal) + Constant

Or

4.221+ 8.881+ 3.528 + 9.261 = 25.891

So the highest utility score came 25.891 with combination of Medi-claim scheme, credit period of nine months and cash withdrawal of 60 per cent. It explains that respondents have given highest utility score to these combinations which shows

the variations in respondents' opinion, and this can be possible where the utility score is highest with lowest standard error (i.e., Medi-claim in scheme, credit period of nine months and 40 per cent of cash withdrawal facility).

The range of the utility values (highest to lowest) for each factor provides a measure of how important the factor was to overall preference. Factors with greater utility ranges play a more significant role than those with smaller ranges.

Table 4: Importance Values of Each Factor Labels

Importance Values	
SCHEME	**48.505**
CREDIT	**36.105**
CASH	**15.390**

Table 4 provides a measure of the relative importance of each factor known as an importance score or value. The results show that different types of schemes have the most influence on overall preference. This means that there is a large difference in preference between product profiles containing most desired scheme and those containing the least desired scheme. The results also show that cash withdrawal percentage plays the least important role in determining overall preference. Credit period for the credit cards plays a significant role but not as significant as scheme. Perhaps this is because the range of prices is not that large.

Table 5: Different Product Profiles and Utility

Utilities				
Factor	**Factor Levels**	**Utility Estimate**	**Utility Score Ranks**	**Std. Error**
SCHEME	M	4.221	1	2.351
	I	-1.131	3	2.351
	D	-0.129	2	2.351
	W	-2.961	4	2.351
CREDIT	3M	2.960	3	1.637
	6M	5.921	2	3.275
	9M	8.881	1	4.912

CASH	40P	1.176	3	1.637
	50P	2.352	2	3.275
	60P	3.528	1	4.912
Constant		**9.261**		**4.273**

Table 5 shows the ranking of each factor levels within the factor. The first factor "Scheme" medi-claim got the highest rank followed by discounts, insurance and wide acceptance. The second factor "Credit" nine months of credit period got the highest utility value followed by six months and three months. The third factor "Cash" 60 per cent of cash withdrawal facility got the highest utility value followed by the 50 per cent and 40 per cent.

Table 6: Hypothetical Credit Cards

Attributes	Card-I	Card-II	Card-III	Card-IV
Scheme	Medi-claim	Discount	Insurance	Wide Acceptance
Credit	9 Months	6 Months	3 Months	3 Months
Cash	60 %	50 %	40 %	40 %
Constant	9.261	9.261	9.261	9.261
Utility Score	**25.891**	**17.405**	**12.266**	**10.436**

The four hypothetical cards are represented in Table 6 with higher utility scores. Different combinations of options can be possible besides these four hypothetical credit cards. The first hypothetical card (Card-I) has the utility score of 25.891 followed by the Card-II with the utility score of 17.405, Card-III with the utility score of 12.266 and lastly Card-IV with the utility score of 10.436.

Conjoint Analysis II:

The second Conjoint Analysis has been done by taking the data during 2006-09 to substantiate the differences among the importance of factors. Mostly three dimensions are considered again with different values and the utility of each value is explained in the Conjoint Analysis. The utility scores and their standard errors for each factor level can be resulted through the second Conjoint Analysis.

Table 7: Factors and Factor Labels

Sl. No.	Factor	Values	Labels
1	Scheme	1, 2, 3, 4	M, I, D, W
2	Credit	1, 2, 3	3M, 6M, 9M
3	Cash	1, 2, 3	40P, 50P, 60P

The following factors are taken with values and labels for Conjoint Analysis in Table 7. For the first factor "Scheme", four schemes are taken like medi-claim facility (M, Assigned Value-1), insurance facility (I, Assigned Value-2), discounts facility for purchases (D, Assigned Value-3) and wide acceptance in different sectors (W, Assigned Value-2). For the second factor "Credit", three options have taken like three months of credit facility (3M, Assigned Value-1), six months of credit facility (6M, Assigned Value-2) and nine months of credit facility (9M, Assigned Value-3). For the third factor "Cash", three options are taken like 40 per cent cash withdrawal capacity (40%, Assigned Value-1), 50 per cent cash withdrawal capacity (50%, Assigned Value-2), and 60 per cent cash withdrawal facility (60%, Assigned Value-3).

Table 8: Coefficient of Correlations

Correlations[a]		
	Value	**Sig.**
Pearson's R	0.564	0.000
Kendall's tau	0.385	0.001
Kendall's tau for Holdouts	-0.667	0.087
a. Correlations between observed and estimated preferences		

Table 8 displays two statistics, Pearson's R and Kendall's tau, which provide measures of the correlation between the observed and estimated preferences. The table also displays Kendall's tau for just the holdout profiles. Instead, the conjoint procedure computes correlations between the observed and predicted rank orders for these profiles as a check on the validity of the utilities. In these cases, the correlations for the holdout (i.e., -0.667) profiles may give a better indication of the fit of the model. The holdouts should always produce lower correlation coefficients than the Pearson's R (0.564) and most essentially Kendall's tau (0.385), which is presented here to indicate the best fit. The Pearson's R (0.564) is more than 0.5. Hence the null hypothesis is accepted, which means:

H_0 = The key attributes perceived by the customer are more important than the rest attributes present in different brands of credit cards.

Hence, the rank order data can be considered for the Conjoint Analysis and the utilities calculated by the analysis is a valid one.

Table 9: Different Product Profiles and Utility

Factor	Factor Levels	Utility Estimate	Utility Score Rank	Std. Error
SCHEME	M	-0.406	6	1.095
	I	2.013	2	1.095
	D	-2.892	9	1.095
	W	1.285	4	1.095
CREDIT	3M	0.710	5	0.763
	6M	1.420	3	1.525
	9M	2.129	1	2.288
CASH	40P	-1.166	7	0.763
	50P	-2.331	8	1.525
	60P	-3.497	10	2.288
Constant		**17.298**		**1.991**

Table 9 shows the utility scores and their standard errors for each factor level. Higher utility values indicate greater preference. There is a direct relationship among all the factors' (insurance and wide acceptance) utility of scheme except the medi-claim and discount factors which have inverse relationship. Scheme insurance achieved the highest utility value (i.e., 2.013). The utility values show that higher credit period is being associated with higher utility (i.e., 2.129). The presence of least cash withdrawal facilities corresponds to a higher utility (i.e., -1.166), as anticipated. Since the utilities are all expressed in a common unit, they can be added together to give the total utility of any combination. For example, the total utility of a credit card with scheme of insurance I, credit period of nine months and 40 per cent cash withdrawal facility is:

Total Utility Score = Utility (Scheme I) + Utility (Credit Period 9M) + Utility (40% of Cash withdrawal) + constant

Or

2.013+ 2.129+ (-1.166) + 17.298 = 20.274

So the highest utility score came 20.274 with combination of insurance scheme, credit period of nine months and cash withdrawal of 40 per cent. It means respondents today are more security conscious for which they are giving higher importance to insurance coverage. It explains that respondents have given highest utility score to these combinations which shows the variations in respondents' opinion can be possible where the utility score is highest with lowest standard error (i.e., insurance in scheme, credit period of nine months and 40 per cent of cash withdrawal facility).

Table 10: Importance Values for Each Factor Labels

Importance Values	
SCHEME	48.675
CREDIT	19.019
CASH	32.305

The range of the utility values (highest to lowest) for each factor provides a measure of how important the factor was to overall preference. Factors with greater utility ranges play a more significant role than those with smaller ranges.

Table 10 provides a measure of the relative importance of each factor known as an importance score or value. The results show that different type of scheme has the most influence on overall preference. This means that there is a large difference in preference between product profiles containing most desired scheme and those containing the least desired scheme. The results also show that cash withdrawal percentage plays the least important role in determining overall preference. Cash withdrawal for the credit cards plays a significant role but not as significant as scheme. Perhaps this is because the range of credit period is not that large.

Table 11: Distribution of Preferred Utility for Each Factor

Utilities				
Factor	**Factor Levels**	**Utility Estimate**	**Utility Score Rank**	**Std. Error**
SCHEME	M	-0.406	3	1.095
	I	2.013	1	1.095
	D	-2.892	4	1.095
	W	1.285	2	1.095
CREDIT	3M	0.710	3	0.763
	6M	1.420	2	1.525
	9M	2.129	1	2.288
CASH	40P	-1.166	1	0.763
	50P	-2.331	2	1.525
	60P	-3.497	3	2.288
Constant		**17.298**		**1.991**

Table 11 shows the ranking of each factor levels within the factor. In case of the first factor "Scheme", insurance got the highest rank followed by wide acceptance, medi-claim and discount. In case of second factor "Credit", nine months of credit period got the highest utility value followed by six months and three months. In case of the third factor "Cash", 40 per cent of cash withdrawal facility got the highest utility value followed by the 50 per cent and 60 per cent. As the cash withdrawal facility in credit card has got higher negative utility value which means its utility value is low in comparison to other factor labels.

Table 12: Hypothetical Credit Cards

Attributes	Card-I	Card-II	Card-III	Card-IV
Scheme	Insurance	Wide Acceptance	Medi-claim	Discount
Credit	9 Months	6 Months	3 Months	3 Months
Cash	40 %	50 %	60 %	60 %
Constant	17.298	17.298	17.298	17.298
Utility Score	**20.274**	**17.672**	**14.105**	**11.619**

The four hypothetical cards are represented in Table 12 with higher utility scores. Different combinations of options can be possible besides these four hypothetical credit cards. The first hypothetical card (Card-I) has the utility score of 20.274 followed by the Card-II with the utility score of 17.672, Card-III with the utility score of 14.105 and lastly Card-IV with the utility score of 11.619.

7. Concluding Observation

This exploratory study signifies that the customers' preferences can be changed with the change in value added services available with different brands of credit cards. Both the Conjoint Analyses have similar factors but different utility scores given by the respondents. Conjoint Analysis I has shown a positive relationship of credit card sales and the credit period and cash withdrawal capacity. This explains the credit cards sale will be more with the increase in credit period and increase in cash withdrawal facilities. But it has negative relationship with all the variables of factor scheme except medi-claim. This gives the idea that the sales can also increase with increase in medi-claim but not with the increase in insurance, discount and wide acceptance facilities. It also gives the idea that during 2002-05, respondents have given more weightage to medi-claim facility than any other facilities.

But Conjoint Analysis II gives the idea that there is positive relationship of credit card sales with credit period but not with the cash withdrawal facility. This explains the credit card sales will increase with the increase in credit period and decrease with the increase in cash withdrawal capacity. The credit cards sales have also positive relationship with insurance and wide acceptance but not with medi-claim and discount. During 2006-09, respondents have given highest weightage to credit period and less weightage to cash withdrawal facilities. Besides that they have given highest importance to insurance coverage and wide acceptance and least importance to medi-claim and discounts. In both the cases, credit period is the most important factor to consider for the future sales. Discount in sales is the least important factor, therefore, the change in discount is not going to affect the future sales.

The sample which has been taken may not be the replica of the population of India. It is a convenience sample which shares some characteristics of Indian consumers. A study with a sample from different parts of India and the representatives of their diverse population can be recommended for further research.

References

Bliss, M. (1996). Co-branding in Europe. *International Journal of Bank Marketing*, 14 (6), pp. 36-40.

Braunsberger, K., Lucas, L.A. and Roach, D. (2004). The Effectiveness of Credit-card Regulation for Vulnerable Consumers. *Journal of Services Marketing*, 18 (5), pp. 358-370.

Braunsberger, K., Lucas, L.A. and Roach, D. (2005). Evaluating the Efficacy of Credit Card Regulation. *International Journal of Bank Marketing*, 23 (3), pp. 237-254.

Charles, B. (2008). Measuring College Students' Choice Criteria of Credit Cards: Scale Development and Validation. *Journal of Marketing Management*, 24 (3-4), pp. 317-344.

Charles, B. and Kalafatis, S.P. (2007). Positioning Strategies of International and Multicultural-oriented Service Brands. *Journal of Services Marketing*, 21 (6), pp. 435-450.

Devlin, J.F., Worthington, S. and Gerrard, P. (2007). An Analysis of Main and Subsidiary Credit Card Holding and Spending. *International Journal of Bank Marketing*, 25 (2), pp. 89-101.

Hirschman, E.C. (1979). Differences in Consumer Purchase Behaviour by Credit Card Payment System. *Journal of Consumer Research*, 6 (5), pp. 58-66.

Kaynak, E. and Ugur, K. (1984). A Cross-Cultural Study of Credit Card Usage Behaviours: Canadian and American Credit Card Users Contrasted. *International Journal of Bank Marketing*, 2 (2), pp. 45-57.

Kaynak, E., Kucukemiroglu, O. and Ozmen, A. (1995). Correlates of Credit Card Acceptance and Usage in an Advanced Developing Middle Eastern Country. *Journal of Services Marketing*, 9 (4), pp. 52-63.

Khurana, S. and Singh, S.P. (2011). An Analytical Study of Customer's Preferences and Satisfaction in Credit Card Industry. *The IUP Journal of Bank Management*, 10 (1), pp 71-87.

Kotler, P. (2008). *Marketing Management*. New Delhi: Pearson Education Inc., Twelfth Edition.

Malhotra, Naresh K. (2006). *Marketing Research*. New Delhi: Pearson Education Inc., Fourth Edition.

Nargundkar, R. (2004). *Marketing Research*. New Delhi: Tata McGraw-Hill Publishing Company Limited, Second Edition.

Pulina, M. (2011). Consumer Behaviour in the Credit Card Market: A Banking Case Study. *International Journal of Consumer Studies*, 35, pp. 86–94.

Schiffman, L.G. and Lazar, K.L. (1995). *Consumer Behavior*. New Delhi: Prentice-Hall of India Private Limited.

Sharma, D.D. (2004). *Marketing Research: Principle and Applications and Cases*. New Delhi: Sultan and Sons, Educational Publishers.

Subramanian, S. (2010). Credit Card - A Study with Reference to Awareness and Satisfaction of Cardholders. *Advances in Management*, 3 (8), pp. 40-46.

Torbet, G.E., Marshall, I.M. and Jones, S. (1995). One in the Eye to Plastic Card Fraud. *International Journal of Retail & Distribution Management*, 23 (5), pp. 3-11.

Tripathy, N. et al. (2012). Changing Perception of Indian Customers' towards Credit Cards - An MDS Analysis. *International Journal of*

Business and Development Research, 1 (1), pp. 50-57.

Warwick, J. and Mansfield, P. (2000). Credit Card Consumers: College Students' Knowledge and Attitude. *Journal of Consumer Marketing*, 17 (7), pp. 617-626.

Wickramasinghe, V. and Gurugamage, A. (2009). Consumer Credit Card Ownership and Usage Practices: Empirical Evidence from Sri Lanka. *International Journal of Consumer Studies*, 33, pp. 436-447.

Worthington, S. (1994). The Development of and the Prospects for Retailer-issued Credit Cards in Japan. *International Journal of Retail and Distribution Management*, 22 (8), pp. 33-38.

Worthington, S. (1995). The Cashless Society. *International Journal of Retail and Distribution Management*, 23 (7), pp. 31-40.

Worthington, S. (1996). Smart Cards and Retailers – Who stands to benefit? *International Journal of Retail and Distribution Management*, 24 (9), pp. 27-34.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 16-22

Quality in Higher Education in Cambodia – A Perception Analysis

In Viracheat[1]

ABSTRACT

The present study is an attempt to understand the perceptions of students on quality in higher education. It is believed that quality in higher education is influenced by a set of complex factors. Through conducting FGDs among students and in-depth interviews among teachers and senior management it is revealed that the higher education institutions must take appropriate measures to see that quality is ensured in their whole process of functioning. A competitive tuition fee not only can enable every sections of the society to access into higher education but also encourage students to complete their education without any disruption. There is a need to regularly renew and redesign the programs and courses to make it more practical and market oriented. Teachers should have practical pedagogical skills to effectively facilitate the development of higher order thinking skills of the students through appropriate methodology and be involved in continuous assessment which can show the learning outcome of the students. On-time appropriate student support services can enhance the quality in higher education which institutions must cater to. Quality in higher education can be ensured when all members of the higher education institutions are actively engaged in social and civic training and committed to bring changes in the socio-economic conditions of their communities. Thus, quality in higher education is an issue that can neither be avoided nor compromised for any reasons as an education of high quality provides the right tools for students to meet future challenges.

Key Words: Perception, Higher Education, Quality

1. Introduction

Emerging economies are facing tremendous challenges to meet the demand for higher education made by an increasingly growing population in search for knowledge and skills. This requires not only to establish new higher education institutions but also to enhance the capacity in higher education institutions (colleges and universities). More importantly, it is to ensure that students stay and successfully finish their academic preparation, gain the required knowledge as well as build their skills to work in a globally competitive economy. The learners are further required to transform their skills and capabilities as a result of the changes in the economic and social fundamentals caused by globalization.

Higher education generates natural externality; improves productivity; governance; and strengthens civil society and helps in the attainment of vertical

[1] Secretary of State, The Office of the Council of Ministers, Royal Government of Cambodia, Kingdom of Cambodia. Mobile: (855) 16 929 929, E-mail: viracheat@gmail.com

and professional mobility (Psacharopoulos and Woodhall, 1985; Psacharopoulos, 1988; and Todaro, 1995). In the global context, at present, the significance of higher education has increased manifold and it is strongly believed that the quality of higher education ensures the pace of economic and social development of a country. As such, higher education institutions are charged with formation of human capital through teaching, building knowledge base through research and knowledge development, and dissemination and use of knowledge by interacting with the knowledge users (Okwakol, 2009).

Ensuring quality in higher education is of utmost importance for stakeholders such as learners, families of learners, employers, institutions and above all the society. Quality in higher education is an issue that can neither be avoided nor compromised for any reasons as an education of high quality provides the right tools for students to meet future challenges. A high quality higher education system is characterized by removing all obstacles to access, and facilitating progress and completion; implementing a student-centered approach to learning and fairly assessing students. This system must also be braced by adequate student support services; ensuring links between learning, teaching and research activities; individual, social and civic training for responsible and active citizens; mobility opportunities; academic freedom; and where students are considered full members of the academic community and competent, constructive partners (ESU, 2013).

Quality in higher education can be measured by various models, each having their shortcomings and contributions to the assessment of higher education institutions. These models include the simple 'production model', which depicts a direct relationship between inputs and outputs; the 'value-added approach', which measures the gain by students before and after they receive higher education; and the 'total quality experience approach', which aims to capture the entire learning experience undergone by students during their years in universities or colleges (Tam, 2001). As revealed by Srikanthan and Dalrymple (2002), the general features of an industrially applied total quality management model are quite appropriate to the service functions in a university. For the academic functions, it is possible to develop an appropriate generic model based on the review of a number of models for quality in education as proposed in the recent educational literature. However, the effectiveness of the features of the combined model in addressing the multifarious elements of higher education is dependent on the level of integration between the two functions. As pointed out by the authors, to enhance quality, ideal organization behavior is one that embodies the 'learning communities' concept. The holistic model for quality management in higher education as proposed by the authors may serve as the ideal to address the service, education and implementation aspects synergistically.

Ensuring quality in education involves several challenges. Rowley (1996) points out that the two distinct literatures, those of educational quality and those of service quality though having some insights to contribute but each has its own inherent debates. Exploring and integrating these issues for application in the measurement of educational quality is a considerable challenge. Harvey and Askling (2003) give an overview of different purposes of quality monitoring and also different forms of monitoring procedures. The authors suggest that the catalytic function of monitoring for internal improvements within institutions ought to be emphasized.

An important dimension of quality in higher education is the quality of the outcomes achieved. In this context, the study by Warn and Tranter (2001) measures the outcome as the development

of attributes in graduates. The study examines the extent to which the development of generic competencies in graduates predicted their perceptions of: the overall quality of their degree; and fitness for purpose of their degree for entry into the workplace. It reveals that the competency model had only partial success in estimating the graduates' assessment of the quality of their higher education. Improvements in quality are being achieved through sound and strict policies on accreditation, deregulation, effective technical panels in various fields, faculty development, and closure of sub-standard and non-performing programs and institutions (Guzman, 2013). UNESCO (2011) believes that universal access to high quality education is key for building inclusive knowledge societies based on human rights, peace, and intercultural dialogue.

As quality in higher education is of utmost important in producing quality manpower to face the challenges in both regional and global economy, the present study attempts to examine the quality of higher education in Cambodia by considering the perceptions of students.

Higher education in Cambodia has witnessed phenomenal expansion during the last one decade and the increasing attention given to the development of higher education in the country both by government and private sector has brought spectacular changes in terms of size, enrolment and expenditure. As revealed, in Cambodia, the total number of higher education institutions (universities and institutes) both public and private along with their branches in 1999-2000 was 13 which increased to 103, i.e., 692 per cent increase in 2008-09 over 1999-2000. Further, among the total number of higher education institutions, while 70 per cent belonged to the private sector, the rest 30 per cent were public institutions. In the capital city of Cambodia, i.e., in Phnom Penh, around 46 per cent of higher institutions were concentrated to provide education to the students. Moreover, in the whole country, in 2008-09, a total number of 137,253 students were enrolled in higher education which included Associate, Bachelor, Master and Doctoral level degrees[2]. After decades of internal war and destruction, finally peace, political stability and economic development of the country have restored significant amount of confidence among the people to pursue higher education. As not only the number of institutions but also the level of enrollment has been increasing significantly, it is important to see that quality in higher education is ensured keeping in mind the interest of several stakeholders. Thus, the present study is an attempt in this direction.

2. Objective

The main objective of the present study is to understand the perceptions of the main stakeholder of the higher education, i.e., the students, on quality in higher education in Cambodia.

3. Study Methodology

To carry out the present study, among both the public and private universities in Cambodia, purposively the largest private university is taken into account. The Build Bright University (BBU) which is the study university has its eight campuses in various parts of Cambodia and presently around 25,000 students are pursuing their studies. To understand the perceptions of students on the quality of higher education, besides collecting primary data through Focus Group Discussions (FDGs) among students, in-depth interviews with teaching staff, and senior management of the university are carried out. Altogether, 12 FGDs among the students volunteered to participate

[2] Unpublished data of Ministry of Education, Youth and Sport, Royal Government of Cambodia.

are organized with eight members in each group. Further, each group comprises of both male and female participants with varied backgrounds. To carry out the in-depth interviews with teaching staff, randomly 22 teachers (50 per cent) involved in teaching the graduate students are selected. The required secondary data for the study are collected from both published and unpublished sources of the Ministry of Education, Youth and Sport (MoEYS), Royal Government of Cambodia.

The responses are thematically arranged and described from students' perspectives and discussed by backing up with information from in-depth interviews and literature analysis.

4. Findings and Discussions

4.1 Purpose of Attaining Higher Education

The FGDs among the students reveal that learners have a clear understanding and purpose of pursuing higher studies. They view it as a means to gain advanced up-to-date knowledge to build their capacity to play a leading role in the family, organization and society. In addition, they believe that higher education can sharpen their knowledge leading to better employment opportunities, higher earnings and recognition in the society. Moreover, they reveal that attaining higher education is a means to creating a new generation of educated society those who can solve the problems of the society, and transform it from ignorance.

4.2 Assessment of the Quality of Higher Education

Accessibility to Higher Education: High quality higher education system is characterized by removing all obstacles to access. However, higher education has increasingly become expensive in terms of tuition fee, resulting in exclusion of the socially deprived students and high rates of drop-out. Thus, financing higher education remains the major problem. All respondents in the survey view that higher education institutions should take necessary steps to diversify their funding structure so as to have less dependence on tuition fees of the students. A competitive tuition fee not only can enable every sections of the society to access into higher education but also encourage students to complete their education without any disruption. In addition, the higher education institutions can get the opportunity to serve a large community and utilize their resources properly.

Physical Infrastructure: The respondents in FGDs strongly view that adequate, modern and appropriate infrastructure are required to carry out studies at higher level. According to them the number of students admitted in each program must be proportionate to the infrastructure and other facilities available in higher education institutions. A modern class-room with required up-to-date teaching aids, a library with well stock of books and study materials, computer laboratory equipped with modern computers along with latest soft-wares and high-speed internet facilities are not only required for the learners in the process of gaining the knowledge but also facilitating the instructors in their process to transfer their knowledge. Thus, the FGDs among the students and in-depth interviews with teachers and management reveal that inadequate, inappropriate and out-dated physical infrastructure adversely impact on the quality of higher education.

Programs and Curriculums: The quality of higher education is strongly dependent on the programs designed and offered by the institutions along with the course contents. The respondents through FGDs vehemently view that stakeholders' collaboration and consultations are required while designing programs and courses by the higher education institutions. A systematic study on the requirement of the labour market should be done by the institutions before both planning for new programs and substituting new courses with the old ones. As viewed by the teachers, the learners

can able to show their knowledge only when programs are practical oriented which facilitate for decision-making.

Quality of Teachers and Teaching: Instructors are the key in the process of transferring their knowledge to the learners. They are not only to be knowledgeable but also should have practical pedagogical skills to effectively facilitate the development of higher order thinking skills through appropriate methodology. Instructors through their instructions/teaching must empower the students to critically think and transform themselves and the society.

The respondents in the FGDs strongly view that the quality of higher education in addition to others, depends on the quality of teachers. Hence, according to them, higher education institutions should employ highly qualified teachers preferably with doctoral degrees having adequate research and practical experience. Further, they point out that institutions should focus on academic staff development by facilitating the teachers to join in long as well as short orientation courses, conferences, seminars, workshops, etc. to acquire new knowledge in their respective fields to disseminate the same among the learners. Besides academic qualifications, and research and practical experiences, teachers should show positive attitude in the process of sharing their knowledge and must adopt highly professional ethical behavior. They should provide valuable time for the learners and concern for students' challenges.

The respondents further view that teachers should develop adequate study materials including cases based on practical situations to facilitate them to learn not only the theories but also their application to the real environment. In the process of learning, teachers must provide adequate guidance and counseling or other forms of support to the students.

Both students and teachers view that the process of learning will be meaningful only when appropriate teaching methodology is adopted. Student-centered approach is favoured by both the learners and teachers at the higher education level. Respondents in FGDs point out that students must get enough scope to share their ideas in the process of learning to sharpen their knowledge and get new ideas.

Teachers in the in-depth interviews reveal that higher education institutions must provide academic freedom to the teachers to share their knowledge to the learners and the teachers should not be confined to the intention of the institutions. However, they also view that high moral conduct should be shown by the teachers while enjoying academic freedom that can enhance quality in higher education.

4.3 Assessments of Learners' Performance

As viewed by both the students and teachers as appropriate, summative as well as formative evaluations should be followed in ensuring quality in higher education. In the in-depth interview, teachers strongly feel that continuous assessment can show the learning outcome of the students. Further, as viewed by them, the cases of dishonesty in the form of cheating by the students during examinations must be dealt seriously by higher education institutions. In addition, the institutions should take stringent measures not only to deal with students who cheat during examinations but also those who are involved in producing plagiarized research reports.

Both in the FGDs and in-depth interviews, students and teachers view that assessment of learners' performance should not only be confined to study examinations but it must also include the students' productive involvement in research activities in the process of learning.

4.4 Academic Support Services

The surveyed students, teachers and senior management agree that provision of on-time appropriate student support services can enhance the quality in higher education. Extended delays in releasing results causing anxiety and uncertainty among the students, delay in issuing academic records in the form of certificate, transcript, etc., delay in conducting supplementary examination for unsuccessful students, lack of providing timely information to students on changes of class schedule, etc., have adverse effect on the quality of higher education. As such, all the respondents of the study view that the above matters must be taken up by the higher education institutions to ensure quality in higher education. Moreover, as felt by the respondents, the higher education institutions should take appropriate measures in dealing all kinds of administrative procedures relating to admission, payment of tuition fees by the students, etc. to make the whole process smooth and less time-consuming.

4.5 Active Community Engagement

The quality in higher education demands that the institutions and its members must actively participate in community building by undertaking several community based activities. The in-depth interviews among the teachers and senior management reveal that quality in higher education can be ensured when all members of the higher education institutions are actively engaged in social and civic training and committed to bring changes in the socio-economic conditions of their communities while protecting the valued culture and tradition of the society.

4.6 Mobility Opportunities

It is strongly felt that in the era of globalization, learners of higher education should move comfortably to their desired institutions within or outside their country or region. Hence, enough opportunities for mobility should be provided to the learners. All the respondents in the survey view that higher education institutions must build up academic linkage with other similar institutions to enable the learners to transfer their earned credits to the new institution.

4.7 Economic Considerations

In addition to recognition, it is important that higher education institutions are involved in implementing suitable policies to retain their committed and knowledgeable academic and non-academic staff to ensure quality in higher education. Staff will appreciate if the higher education institution makes necessary effort to provide their living conditions better. In the FGDs among students and in-depth interviews with teachers, it is revealed that remuneration of the teaching and non-teaching staff at higher education institution should be competitive to meet the rising cost of living. Poor remuneration results in brain drain which leads to loss of knowledgeable staff. Thus, top management of higher education institutions must consider the needs of their academic and non-academic staff and how they can facilitate the satisfaction of those needs. In the in-depth interviews the senior management view that staff appraisal should be done on a timely basis and follow-up action should be carried out to properly recognize the staff achievement and recommend for further improvement to ensure quality in higher education.

5. Concluding Remarks

Quality in higher education is influenced by a set of complex factors. It is an issue in higher education which can neither be avoided nor compromised for any reasons including the ownership of the institution- public, private, public-private partnership, etc. The study reveals that a competitive tuition fee not only can enable every sections of the society to access into higher education but also encourage students to complete their education without any disruption. To

ensure quality in higher education, an adequate, appropriate and up-dated physical infrastructure is highly required. There is a need to regularly renew and redesign the programs and courses to make it more practical and market oriented. As such, stakeholders' collaboration and consultations are required while designing programs and courses by the higher education institutions. Teachers are not only to be knowledgeable but also should have practical pedagogical skills to effectively facilitate the development of higher order thinking skills of the students through appropriate methodology. The provision for continuous assessment can show the learning outcome of the students. On-time appropriate student support services can enhance the quality in higher education which institutions must cater to. Quality in higher education can be ensured when all members of the higher education institutions would be actively engaged in social and civic training and committed to bring changes in the socio-economic conditions of their communities. Further, higher education institutions must build up academic linkage with other similar institutions to enable the learners to transfer their earned credits to the new institution. To ensure quality in higher education, institutions of higher learning should implement suitable policies to retain their committed and knowledgeable academic and non-academic staff. Thus, quality in higher education should enjoy prime importance for producing quality manpower to face the challenges in both regional and global economy.

References

European Students' Union (2013). *2013 Policy Paper on Quality of Higher Education*. Available [Online] http://www.esu-online.org/news/article/6064/2013-Policy-paper-on- quality-of-higher-education/

Guzman, A.D. (2013). Quality versus Access in expanding Higher Education. *University World News,* Issue 284.

Harvey, L. and Askling, B. (2003). Quality in Higher Education in Education. *The Dialogue between Higher Education Research and Practice*.

Okwakol, M.J.N. (2009). *The Need for Transformative Strategic Planning in Universities in Uganda*. NCHE.

Psacharopoulos, G. (1988). Education and Development - A Review. *The World Bank Research Observer*, 3 (1), pp. 99-116.

Psacharopoulos, G. and Woodhall, M. (1985). *Education for Development - An Analysis of Investment Choices.* New York: Oxford University Press.

Rowley, J. (1996). Measuring Quality in Higher Education. *Quality in Higher Education*, 2 (3), pp. 237-255.

Srikanthan, G. and Dalrymple, J.F. (2002). Developing a Holistic Model for Quality in Higher Education. *Quality in Higher Education*, 8 (3), pp. 215-224.

Todaro, M. (1995). *Economic Development.* England: Longman.

Tam, M. (2001). Measuring Quality and Performance in Higher Education. *Quality in Higher Education*, 7 (1), pp. 47-54.

UNESCO (2011). *Open Learning Centre Initiative: Enhancing Quality and Accessibility of Higher Education in Tanzania*. Available [Online] http://www.unesco.org/ new/en/communication-and-information/resources/news-and-in-focus-articles/all-news/news/open_learning_centre_initiative_enhancing_quality_and_accessibility_of_higher_education_in_tanzania/#.UzOfvM76u1s

Warn, J. and Tranter, P. (2001). Measuring Quality in Higher Education: A Competency Approach. *Quality in Higher Education*, 7 (3), pp. 191-198.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 23-29

Representing Human Resource Planning through Graphs

Sujit Kumar Acharya[1] and Ajit Kumar Acharya[2]

ABSTRACT

In any production industry, the demand for the product keeps on changing because of the seasonal factors. With the fluctuations in the demand for the product, the number of units to be produced keeps on changing. This is estimated by using various forecasting techniques. Resource planning in line with the varying production units is an important exercise and involves high amount of cost. Out of all the resources, the human resource planning is very important and significant. In this paper, an attempt has been made to propose a graph theoretic model for depicting the relationship between manpower (MP) and the market demand (MD) existing in the business organizations in different seasons. The proposed model would be useful for manpower planning in business organizations considering the busy and lean periods of business. The aim is to make an optimal HR planning with the objective of the maximum utilization of manpower resulting in higher productivity. For illustrating the idea of graphs in HR planning, two examples, one from the manufacturing industry and another from the service industry have been considered.

Key Words: Production Level, Manpower, Graph, Bipartite

1. Introduction

The human needs of an organization are identified by mapping skills and competencies gaps. Manpower Planning develops plan for fulfilling the human resources requirement of an organization. It also provides a strategic basis for HR decisions making. It is not only concerned with manpower demographics, turnover projections and succession planning, but also helps to plan replacements and changes in manpower competences in a systematic manner. Manpower requirement needs to be assessed and located as per the workload. The present study is conducted to identify the manpower requirement by application of Graph Theory.

Graph Theory was founded by the illustrious mathematician Leonard Euler in 1736 AD after his publication concerning the seven bridge problem. Since then it has been growing with rapid stride and has emerged as an important topic of discrete mathematics. Graph Theory is extremely useful in modeling numerous situations in almost every branch of knowledge as well as situations in the daily life of a man (Mulkevitch and Meyer, 1974; Bondy and Murty, 1976; Chatrand, 1985; Ore, 1990;

[1] Assistant Professor, Department of Business Administration, DDCE, Utkal University, Bhubaneswar, India. Mobile (91) 9861173173, E-mail: sujit_acharya@hotmail.com

[2] Assistant Professor, Department of Mechanical Engineering, TITE, Bhubaneswar, India. Mobile (91) 8093285655, E-mail: ajit_acharya@yahoo.in

Bertram and Horak, 1999). Significant research work has been undertaken for application of Graph Theory in different areas, viz., flow in networks, operation research, computer science, physical sciences, social psychology, group dynamics and so on (Dinic, 1970; Karzanov, 1974; Munkers, 1957; Ray Choudhury and Willson, 1971; Pirzada and Dharwadker, 2007; Dooreu, 2009; Srinivas, Vetrivel and Elango, 2010; Sharma, 2012).

A graph is a mathematical structure denoted as G and has two components. The first component is a set V of vertices while the second one is the set E of edges. An edge is a pair of vertices in V. The graph is completely specified by using the notation $G(V,E)$. It is noteworthy that the set V is nonempty while the set E may be empty. If there are p number of vertices and q number of edges , then the graph $G(V,E)$ is referred to as a (p,q) graph. To depict a graph pictorially vertices are represented as points and edges are represented as straight line segment or curved segments. A point is a $(1,0)$ graph, a line segment is a $(2,1)$ graph where the vertices are the two end points of the segment, a triangle is a $(3,3)$ graph and a quadrilateral with one diagonal is a $(4,5)$ graph and so on. The graph $G(V,E)$ *is* a n-partite, $n \geq 2$, if the vertex set V can be partitioned into n subsets $V_1, V_2, \ldots, V_n$ such that any edge in the graph joins two vertices in different subsets. If $n = 2$, then the graph is a bipartite. It is pertinent to note that Figure -2 depicting the Hierarchy for the Farmer's decision problem in the paper by Hota and Pradhan (2012) is an example of a tripartite where $p = 13$ and $q = 42$, i.e., it is a (13,42) tripartite. The degree of a vertex in a graph is defined as the number of edges incident at the vertex. The Hand Shaking theorem of graph theory states that the sum of the degrees of all vertices in a graph is two times the number of edges in the graph. For example a triangle which is a (3, 3) graph has degree sum 6 = 2 X 3.

The objective of this paper is to construct a graph which depicts the relationship between the level of manpower required and the production of units in a business organization during different periods, viz., busy, moderately busy and lean periods depending upon the market demand. The market demand on commodity is not constant throughout the year; rather it varies in a year from month to month or from season to season. The manpower requirement of an organization needs to be assessed, located and harnessed as per the market demand and the availability of resources. It is necessary that an organization should categorize the employees according to their skills and should ensure their balanced allocation. Improper manpower planning leads to either unnecessary increase in the number of employees which ultimately leads to higher costs such as the cost of training and amenities or a deficient manpower which hampers achieving the desired production level. A balancing demand–supply distribution and allocation of manpower enable an organization to achieve its goal. Thus enough emphasis is laid on manpower planning in any businesses organization (Bhattacharyya, 2008).

2. Some Notations and Assumptions

The graph to be formulated is referred to as the manpower- market demand graph and is denoted as G_{mpmd}.

g_i = The group of workers, $1 \leq i \leq m$: $Ig_iI = n_i$ i.e. the number of elements in g_i is n_i ;

u_i = The set of units to be produced where $Iu_iI = r_i$, $1 \leq i \leq m$;

$A = \{g_1, g_2, \ldots, g_m\}$ which is the set of group of employees and workers ;

$B = \{u_1, u_2, \ldots, u_m\}$ which is the set of units to be produced;

$V = A \cup B$, which is the set of all elements in A or in B i.e. V is the union of A and B.

The numbers n_i are ordered, i.e., $n_1 \leq n_2 \leq \ldots \leq n_m$ and numbers r_i are also ordered, i.e., $r_1 \leq r_2 \leq \ldots \leq r_m$. Further $n_1, n_2, \ldots, n_m$ are the minimum number of workers needed in the organization for production of $r_1, r_2, \ldots, r_m$ number of units respectively. The numbers n_i meant for r_i number of units have been determined by the planning department of the organization in advanced. The organization has the knowledge of the demand from its own experience as well as by the statistics collected.

3. Formulation of the Graph G_{mpmd}

Let V be the vertex set of graph G_{mpmd}. An edge in the set E is defined in the following way:

The two elements set $\{g_j, u_k\}$, $g_j, u_k \in V$ is an edge of the graph if and only if the group g_j containing n_j workers is just sufficient for production of r_k number of units forming the group u_k at certain period of time. For the sake of simplicity the edge is denoted as $g_j u_k$. The following theorems are evident:

Theorem 1: The graph G_{mpmd} is a bipartite with partitions A and B.

Theorem 2: The degree sum of the bipartite G_{mpmd} with V as the vertex set and E as the edge set is at most $m(m+1)$ and the bipartite has at most $m(m+1)/2$ number of edges.

It is pertinent to note that the edges $g_1 u_i$; $i > 1$, $g_2 u_i$; $i > 2$ and in general $g_j u_i$; $i > j$ are definitely not suitable for the organization from financial point of view as such edges imply 'more manpower for less production'. Hence, such edges deserve to be deleted from the graph G_{mpmd} depicting the relationship between manpower and market demand. Thus, the number of edges in the graph G_{mpmd} can be reduced.

Further, if the organization has overtime facilities for the workers, some vertices in the subset A of V remain isolated and can be deleted from the vertex set V. Omission of such vertices in A entails deletion of edges incident on the omitted isolated vertex. This in turn leads to less union activities and more orderliness in the organization which in fact adds to the growth of the organization.

The graph G_{mpmd} facilitates the human resource planning and is expected to result in more efficient working of the organization which in turn can maximize the profit and minimize the loss. This ultimately helps to establish a better brand image in the market for the organization.

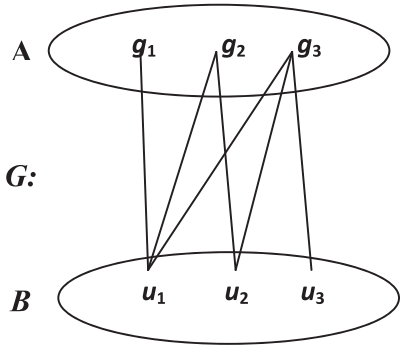
4. Some Examples

To illustrate the idea of the graph G_{mpmd} the following examples are discussed:

Example-1

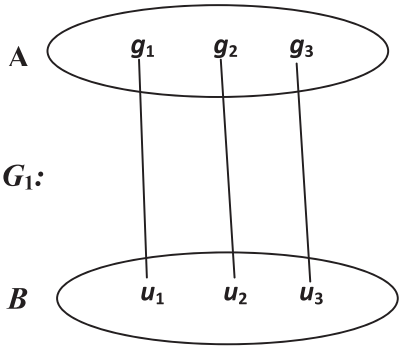
Let the organization be one producing AC machines, the demand for which varies from season to season. Let the demand level in winter, rainy and summer season be r_1, r_2, r_3 units where $r_1 < r_2 < r_3$ and hence $B = \{ u_1, u_2, u_3 \}$ and the associated manpower groups be g_1, g_2, g_3 respectively where : $|g_i| = n_i$ and $n_1 < n_2 < n_3$. If over time facility does not exist, then $G = (V, E)$ is shown in Fig.1.

Figure – 1: MP-MD Graph for AC Production



However, the sub graph of G acceptable for the organization without overtime facility is depicted in Fig. 2

Figure – 2: A Sub Graph of G



In case overtime facilities exist, then the graph, which is acceptable, is any one of the following sub graphs in Fig.3 and Fig. 4.

Figure – 3: MP-MD Graph with Overtime Deleting g_3

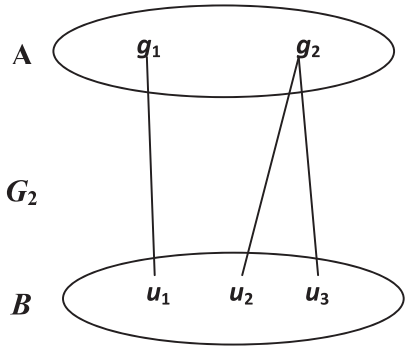
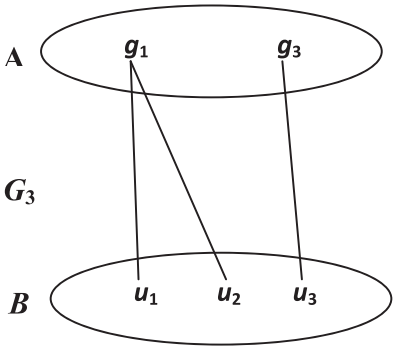


Figure – 4: MP-MD Graph with Overtime Deleting g_2



Between these two graphs, G_2 is preferable to G_3 as the objective can be achieved with less number of workers as is shown in the graph G_2.

Example-2

The next example is a Tractor workshop which is meant for the repair maintenance of Tractors used for both Agricultural and Industrial purposes. The reason behind considering the case study of a Tractor workshop is that, this business fluctuates severely with the changes in the season. The table below depicts the number of tractor inflows in different seasons (which depends on the season) and the number of technicians required in different seasons calculated with an assumption of productivity 2 per day per person.

Table-1: Quarter-wise Inflow of Tractors for Repairment

Period		Average Tractor Inflow to the Workshop per Day	No. of Technicians required with a per Day per Person Productivity of 2 Tractors
1st Qtr	January	20	10
	February		
	March		
2nd Qtr	April	18	9
	May		
	June		
3rd Qtr	July	40	20
	August		
	September		
4th Qtr	October	48	24
	November		
	December		

In this example we have,

g_i = Set of technicians needed for the i^{th} quarter

u_i = Set of tractors for repair in the i^{th} quarter $1 \le i \le 4$. The G_{mpmd} graph for this example is depicted in Figure-5 below:

Figure-5: MP-MD Graph without Overtime

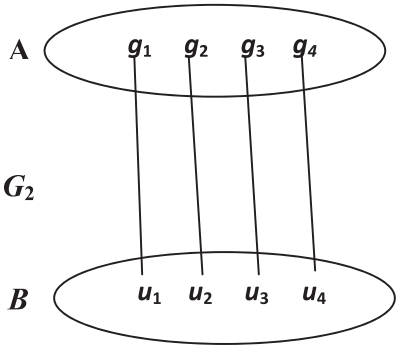
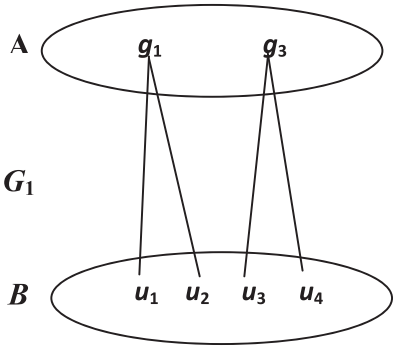


Figure-6: MP-MD Graph with Overtime



However, the graph which is congenial for this example is depicted in Figure 6, which shows the existence of overtime facilities.

HRP must take into account the market demand. This can be efficiently executed by designing of graph theoretic model. This is a new approach. The

graph theoretic model strengthens HR planning and makes it more efficient.

5. Conclusion

The paper discusses the use of graph theoretic model to identify manpower requirement. The model relates to facilitate human resource planning and the efficient working of the organization. In the case of a plant producing AC machines, the demand for the product varies according to the seasons (winter, rainy, and summer), the manpower required to perform the tasks and whether overtime facility is provided by the organization. By applying the graph theoretic model, it is found that even if overtime facility is being provided by the organization, the objective of maximum utilization of manpower resulting in higher productivity can still be achieved with less number of workers. The business like tractor workshop for repair maintenance of tractors used for both agricultural and industrial purposes is also very much affected by the severe changes in the season. By applying the graph theoretic model, similar objective can still be achieved when overtime facilities are being provided.

This paper has implications for human resource planning in organizations. It addresses a new approach based on the graph theoretic model which if used effectively as an organizational tool will enhance its human resource planning and hence makes it more efficient to serve the organization's needs.

References

Bechet, T.P. and Maki, W.R. (1987). Modeling and Forecasting focusing on People as a Strategic Resource. *Human Resource Planning*, 10, pp. 209-218.

Bertram, E. and Horak, P. (1999). Some Applications of Graph Theory to other Parts of Mathematics. *The Mathematics Intelligencer*, Springer Verlag.

Bhattacharyya, D. K. (2008). *Human Resource Research Methods*. Oxford Higher Education.

Bondy, J.A. and Murty, U.S.R. (1976). *Graph Theory with Applications*. North Holland, New York.

Burack, E.H. (1988). *Creative Human Resource Planning and Applications- A Strategic Approach*. New Jersey: Prentice Hall, Englewood Cliffs.

Chatrand, G. (1985). *An Introductory Graph Theory*. New York: Dover Publications.

Dinic, E.A. (1970). Algorithm for Solution of a Problem of Maximum Flow in a Net work with Power Estimation. *Soviet Mathematical Association*, Dokl, 11, pp. 1277-1280.

Dooreu, P. (2009). *Graph Theory and Applications.* University of Catholique De Louvain, Belgium.

Hota, S.K. and Pradhan, K.K. (2012). Selecting and Optimal Cropping Pattern through AHP Method – A Multi Criteria Decision Making Process. *International Journal of Business and Development Research*, 1 (2), pp. 32-43.

Karzanov, A.V. (1974). Determining Maximum Flow in a Network by the Methods of Pre-flows. *Soviet Mathematical*, Dokl, 15, pp. 434-437.

Mulkevitch, J. and Meyer, W. (1974). *Graphs Models and Finite Mathematics.* New Jersey: Prentice Hall, Englewood Cliffs.

Munkers, J. (1957). Algorithms for the Assignment and Transportation Problems. *Journal of Society Industrial and Applied Mathematics,* 5, pp. 32-38.

Ore, O. (1990). Graphs and Their Uses. *Mathematical Association America,* Washington.

Pirzada, S. and Dharwadker, A. (2007). Application of Graph Theory. *Journal of Korean Society of Industrial and Applied Mathematics,* 11 (4), pp. 19-38.

Ray Choudhury, D.K. and Willson, R.M. (1971). Solutions of Kirkman's School Girls's Problem. *Proceedings of American Mathematical Society*, 19, pp. 187-204.

Sharma, S.V.M. (2012). Applications of Graph Theory in Human Life. *International Journal of Computer Applications,* 1 (2), pp. 21-30.

Srinivas, S.G., Vetrivel, S. and Elango, M. N. (2010). Application of Graph Theory in Computer Science - An Overview. *International Journal of Engineering Science and Technology,* 2 (9*),* pp. 4610-4621.

Yelsey, A. (1982). Validity of Human Resource Forecast Design. *Human Resource Planning*, 5, pp. 217-224.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 30-41

An Association between Management Factors and Performance of Rural Microenterprises in Cambodia

Diep Seiha[1]

ABSTRACT

The aim of this paper is to examine the association between the management factors such as planning, organizing, directing and controlling and the performance of selected rural microenterprises in Takeo province, Cambodia. The empirical results of the study show the presence of significant positive association between management factors and sales as well as profits of the microenterprises. It also reveals significant negative association between management factors and expense of the rural microenterprises. As these enterprises are vital for a healthy economy and contribute towards improving the quality of life of individuals, families and communities, better performance of such enterprises are therefore required. Thus, on the basis of the evidence the study suggests that microenterprises should carry out the management functions properly to achieve a higher performance of their enterprises.

Key Words: Entrepreneurship, Entrepreneur, Microenterprise, Management Factors, Performance

1. Introduction

Entrepreneurship is a vital economic development strategy. Microenterprises help in providing jobs, alleviating poverty, and supplying the essential goods and services people need to maintain an adequate standard of living. Hence, in developing countries microenterprises are recognized as the driving force for economic growth. Though microenterprise businesses tend to be very small, often employing only a single operator, and face a number of challenges in different countries in the world, yet their contribution towards socio-economic development is recognized widely. Presently, the role of agriculture in poor people's livelihoods has been changing very fast which resulted in raising the demand for alternative employment and off-farm livelihood opportunities. In addition, traditional approaches to employment to a large extent have failed to keep pace with the growing demand for employment and people are looking for alternative viable opportunities. Thus, in both rural and urban areas many people have started micro and small enterprises to make their living meaningful. Growing evidences suggest that such businesses could increase profits by increasing investment – a number of recent studies find that the marginal return to capital among small firms in developing countries tends to be very high (Mel *et al.*, 2008).

Though the urgent need to reduce poverty in the rural areas of the developing world is the primary rationale to boost the microenterprises, however, the propensity to become an

[1] President, Build Bright University, Samdech Sothearos Blvd., Phnom Penh, Cambodia. Mobile (855) 12 634 646, Email: seihad01@yahoo.com

entrepreneur is influenced by several socio-cultural and demographic variables and attitudes. The performance of rural enterprise is often highly correlated with several entrepreneurial characteristics, managerial processes and effective support systems – the three dimensions deemed to collectively determine business success (Kanungo, 1998). Successful entrepreneurs and their firms seem to come in different shapes and sizes, but they appear to share some common characteristics, which are related to their personal qualities and integrated management of the firm in the context of a dynamic and competitive business environment (Edralin, 1998). Honig (1998) identifies several social and individual attributes to strengthen the microenterprises. In addition to others, he finds social capital, as operationalized by frequent church attendance and marital status of the owner and social networks play an important role in the success of informal microenterprises. Tata and Prasad (2008) in their study present a conceptual model of the relationships between gender, social capital configuration, collaborative exchange of the micro entrepreneur and microenterprise performance. The model proposes that the configuration of micro entrepreneurs' social capital is defined through three attributes: network diversity, network size and relationship strength. These three attributes influence the collaborative exchange process, or the actions taken by micro entrepreneurs to utilize their social capital and gain information and resources. This process, in turn, influences microenterprise performance. In addition, the model also proposes that gender affects the relationships between social capital, collaborative exchange and microenterprise performance.

By using data from the 1998/1999 Ghana Living Standards Survey (GLSS 4), Masakure *et al.* (2008) in their research analyze the effect of firm and other characteristics on the incidence and intensity of improved financial performance among non-farm microenterprises in Ghana. The results indicate that firm characteristics, including urban and regional location, significantly affect the incidence and intensity of improved performance, whereas, entrepreneurial characteristics are unimportant. The firm's capital stock does not affect the propensity and intensity of better performance, reflecting that the value of assets owned is low and insufficient to have a measurable impact on enterprise productivity and performance. Okurut (2008) examines the determinants of microenterprise performance in Uganda by using the National Household Survey (UNHS) 2002-03 collected by the Uganda Bureau of Statistics (UBOS). The results find that the returns in microenterprises are positively and significantly influenced by education level, experience, and business assets, but negatively influenced by being female-owned and rural-based. As suggested, from the policy perspective, the continuity of the current education policy of the Universal Primary Education (UPE) and Universal Secondary Education (USE) is a step in the right direction in improving the level of education, especially that of women, for the better performance of microenterprises. In addition, the improvement of rural infrastructure is very crucial in enhancing the performance of rural-based microenterprises. Loening *et al.* (2008) carry out an extensive study to understand the performance, opportunities and constraints of the rural nonfarm enterprises in Ethiopia with the understanding that though Ethiopian economy remains highly dependent on the performance of the agricultural sector, the ongoing population growth increases the need for income diversification strategies to promote the nonfarm enterprise activity which is considered to be a promising catalyst for development. Their research reveals that in the study area the nonfarm enterprise sector is sizeable, particularly important for women, and plays an important role during the low season for agriculture, when alternative job opportunities are limited. Local fluctuations in

predicted crop performance affect the performance of nonfarm enterprises, because of the predominant role played by the agricultural sector. In addition, enterprise performance is also affected by the localized nature of sales and limited market integration for nonfarm enterprises. Masakure *et al.* (2009) assess the financial performance of microenterprises in Ghana by applying the resource-based theory of the firm. Based on the data from the 1998/1999 Ghana Living Standards Survey, their study reveals that factors embodied in firm-specific resources jointly impact enterprise performance. However, sector/market factors also play a role, suggesting that the interaction between microenterprise, sector, and market factors helps to explain enterprise performance. Rankhumise and Rugimbana (2010) utilize an inductive approach involving mixed methods to identify the key factors that are perceived to be influencing the performance of microenterprises in Mpumalanga province, South Africa. The effects of access to funding, white collar crime, government training and other interventions were taken as key factors influencing the performance of microenterprises. The results show that owners were experiencing serious problems in terms of access to funding, dealing with crime, lack of appropriate education and training, lack of access to government funds, and stifling government regulations. Overall, the findings point to a general mismatch between government intentions and practices where microenterprise support is concerned, thus negatively affecting microenterprise performance in general. Njanja *et al.* (2010) investigate the management factors affecting performance of micro, small and medium enterprises in Kenya. The results show that the critical management factors critical to the different categories of enterprises differed in micro, small and medium enterprises. Sinha and Sen (2011) attempt to examine the key socio-cultural and organizational factors that affect the performance of the microenterprises in the state of Jharkhand, India by taking into account 41 microenterprises of Dhanbad district, Jharkhand state. The findings of the study show that only three factors, such as age of the enterprise, human capital inputs and management capability influence the performance of the microenterprises.

Engaging the rural population in small scale industries to eliminate poverty from rural Nepal was recognized by the United Nations Development Programme (UNDP) by launching the Microenterprise Development Programme (MEDEP). Pukar (2012) by taking into account microenterprises of two different geographic locations in Nepal examines the performance of micro entrepreneurs that were trained by MEDEP and finds that their performance was different in different locations of rural Nepal. As revealed, the disparity in business performance is the result of differences in socio-economic and market conditions among the locations. However, the study finds that the influence of such differences on the performance of microenterprises diminished over time. Welsh *et al.* (2013) examine whether performance of microenterprises located in Changchun, an industrial city in Northeast China, is positively related to key management practices, entrepreneurial orientation, marketing capability, and technology capability. In addition, the study aims to introduce the concept of a microenterprise zone (MEZO) as a supplemental tool for governments to strengthen microenterprise activity. The results of the study show that key management practices, marketing capability, and technology capability of microenterprises in MEZOs do have a positive impact on performance - sales, net profit, and growth. Hence, as suggested, MEZOs need to be explored as one solution to support microenterprise development to alleviate poverty, create jobs, and stimulate economic activity.

As revealed from the literature, number of factors

related to the entrepreneur including management capability, the firm and the business environment influence the performance of the microenterprises. As there are differences in performance of microenterprises in Cambodia, it is important to understand the extent to which the management factors are associated with the performance of microenterprises. Keeping this in mind, the present empirical research is carried out to examine the association between the management factors such as planning, organizing, directing and controlling and the performance of microenterprises in one of the provinces in Cambodia.

The paper is structured as follows: in section two the study objectives are presented. In section three, while the methodology adopted in the study is given, the section four examines the association between the management factors of the selected microentreprises with their business performance. Finally, in the last section the conclusion of the study is presented.

2. Objectives of the Study

The main objectives of the study are as follows:

i. To examine the association between planning function and the performance of microenterprises in the study area.
ii. To find out the association between organizing function and the performance of selected microenterprises.
iii. To determine the relationship between leading function and the performance of microenterprises.
iv. To determine the influence of controlling function on the performance of microenterprises in the study area.

3. Data Base and Methodology

One among the South-east Asian countries, Cambodia is bordering with Thailand, Vietnam, Lao PDR and the Gulf of Thailand. Presently, the country has 24 provinces/ cities including the capital city of Phnom Penh. To carry out the present research, among 24 provinces/ cities, Takeo province is randomly selected. Further, from among the 10 districts of Takeo province, one district (Samrong district) is selected randomly. To carry out the field survey, two communes out of 11 communes of the district are randomly selected by using the lottery method. From these selected two communes, on the basis of quota sampling method, 55 microenterprises are selected. These selected microenterprises are involved in both farm and nonfarm business activities, such as wood furniture making, motor-bike and car repairing, silk weaving, manufacturing of steel, aluminum and glass products, beauty salon, packaging and selling of food items, tailoring and dress making, etc.

Primary data from the 55 selected microenterprises are collected with the help of a structured questionnaire and by employing direct personal interview method. Further, relevant secondary data are gathered from the Statistical Yearbook of Cambodia (2011) and other relevant documents published by the National Institute of Statistics, Ministry of Planning of Royal Government of Cambodia.

This study attempts to examine the association between management factors such as planning, organizing, directing and controlling and the performance of the selected microenterprises in the study area. Based on the objectives, the study intends to test the following null hypothesis:
There is no significant association between the management factors and the performance of the microenterprises in the study area.

To indicate the performance, the study considers the sales, expenses and profits of the selected microenterprises. In order to determine the level of association between the management factors and performance of microenterprises, the Gamma (γ)

measure of association is used, which is as below:

$\gamma = N_s - N_d / N_s + N_d$

Where,

N_s = Number of same order pairs

N_d = Number of inverse order pairs

4. Analysis of Results

Planning and Performance of Microenterprises

Among others, the success of enterprise depends upon careful planning. Systematic planning and monitoring measure the competency of the entrepreneur to run a business (Resurreccion and Vinuya, 1997). The entrepreneur being a careful planner sets what are to be accomplished and meticulously assesses how the present accomplishment can contribute to the long-term goals of the enterprise. Thus, the performance of the microenterprise in terms of sales, expenses and profits varies as per the planning function of management. Data relating to planning function and performance of the microenterprises of the sample units are presented in Table 1.

Table 1: Planning and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Planning	11 (44.0)	12 (48.0)	2 (8.0)	25 (100.0)	3 (12.0)	7 (28.0)	15 (60.0)	25 (100.0)	10 (40.0)	7 (28.0)	8 (32.0)	25 (100.0)
No planning	6 (20.0)	10 (33.3)	14 (46.7)	30 (100.0)	14 (46.7)	12 (40.0)	4 (13.3)	30 (100.0)	1 (3.3)	12 (40.0)	17 (56.7)	30 (100.0)
Total	**17 (30.9)**	**22 (40.0)**	**16 (29.1)**	**55 (100.0)**	**17 (30.9)**	**19 (34.5)**	**19 (34.5)**	**55 (100.0)**	**11 (20.0)**	**19 (34.5)**	**25 (45.5)**	**55 (100.0)**
Gamma (γ) Value	0.612				-0.730				0.573			
Significance Level	0.001				0.000				0.003			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

It is observed that among the 55 selected microenterprises, 25 (45.5 per cent) employed planning activities, whereas, the rest 30 microenterprises (55.5 per cent) did not carry out any kind of planning while implementing their activities. Among the enterprises carrying out the planning activities, only eight per cent had low level of sales, whereas, the others 98 per cent had high (44 per cent) and medium (48 per cent) sales. In contrast, among the total enterprises not carrying out the planning activities, a majority (46.7 per cent) had low sales, whereas, only 20 per cent had high and 33.3 per cent had medium sales performance. The Gamma (γ) measure shows a coefficient of 0.61 indicating a high positive association between planning and sales. The level of significance 0.001 (one per cent) therefore leads to the rejection of null hypothesis - there is no significant association between the planning function and the sales of the microenterprises in the study area.

With regard to the expenses, among the microenterprises carrying out the planning

activities, only 12 per cent had low level of expenses, whereas, 28 per cent and 60 per cent had medium and high level of expenses respectively. For the microenterprises not carrying out the planning activities, it is revealed that the highest number, i.e., 14 (46. 7 per cent) had high expenses, whereas, the lowest 13.3 per cent had low expenses.

The Gamma (γ) test shows a coefficient of -0.73 indicating a high negative association between planning and expenses. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the planning function and the expenses of the selected microenterprises.

It is further revealed from the table that the highest percentage of units (40 per cent) had high level of profits among the enterprises which carried out planning activities. Among the enterprises not carrying out planning activities, only 3.3 per cent had high profits, whereas, the highest 56.7 per cent had low profits. The Gamma (γ) measure shows a coefficient of 0.57 indicating a high positive association between planning and profits. The level of significance 0.003 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the planning function and the profits of the microenterprises in the study area. Thus, the empirical evidence shows that the performance of the microenterprises in terms of sales, expenses and profits varies in terms of the panning function of management.

Organizing and Performance of Microenterprises

The performance of microenterprises also depends upon the way the enterprises organize their activities. It is generally presumed that higher level of organizing skills ensure better performance of an organization reflecting in terms of higher revenue and profit. Data relating to organizing function and performance of the selected microenterprises are presented in Table 2.

Table 2: Organizing and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Professionally organized	8 (72.7)	3 (27.3)	0 (0.0)	11 (100.0)	0 (0.0)	2 (18.2)	9 (81.8)	11 (100.0)	2 (18.2)	6 (54.5)	3 (27.3)	11 (100.0)
Well organized	7 (25.9)	17 (63.0)	3 (11.1)	27 (100.0)	8 (29.6)	12 (44.4)	7 (25.9)	27 (100.0)	9 (33.3)	8 (29.6)	10 (37.0)	27 (100.0)
Average organizing	2 (11.8)	2 (11.8)	13 (76.5)	17 (100.0)	9 (52.9)	5 (29.4)	3 (17.6)	17 (100.0)	0 (0.0)	5 (29.4)	12 (70.6)	17 (100.0)
Total	**17 (30.9)**	**22 (40.0)**	**16 (29.1)**	**55 (100.0)**	**17 (30.9)**	**19 (34.5)**	**19 (34.5)**	**55 (100.0)**	**11 (20.0)**	**19 (34.5)**	**25 (45.5)**	**55 (100.0)**
Gamma (γ) Value	0.799				-0.640				0.452			
Significance Level	0.000				0.000				0.002			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

As revealed, among the selected microenterprises (55), only 11 enterprises (20 per cent) had professionally organized their units, whereas, around 49 and 31 per cents were found to be well organized and own way of organizing their activities respectively. Among the professionally organized enterprises, none was found to be having low sales and while 72.7 per cent had high sales, the remaining 27.3 per cent had medium level of sales. In contrast, among the enterprises having their own way of organizing, while the highest percentage, i.e., 76.5 per cent had low level of sales, only 11.8 per cent each had high and medium sales. In case of well organized microenterprises, the highest percentage, i.e., 63 per cent, had medium sales. The remaining around 26 and 11 per cents had experienced high and low levels of sales respectively. The Gamma (γ) measure shows a coefficient of 0.79 indicating a high positive association between organizing and sales. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the organizing function and the sales of the microenterprises in the study area.

With regard to the expenses, among the professionally organized microenterprises, none was found to have high expense, whereas, 81.8 per cent had experienced low expense. Contrary to that, among enterprises having own way of organizing, the highest percentage, i.e., 52.9 per cent had incurred high expense and only 17.6 per cent had incurred low expense. Among the well organized enterprises, 29.6 per cent had high expense, 44.4 per cent had medium expense and the remaining 25.9 per cent had incurred low expense. Thus, it is revealed that a professionally and well organized enterprise incurred lower level of expenses compared to others. The Gamma (γ) test shows a coefficient of -0.64 indicating a high negative association between organizing function and level of expense. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the organizing function and the expense of the microenterprises in the study area.

So far profit of the enterprise is concerned, it is revealed that none of the microenterprises among enterprises having own way of organizing had enjoyed high profits, rather majority of them (70.6 per cent) had low level of profits. Among professionally organized microenterprises, 54.5 per cent had availed medium profits, whereas, 27.3 and 18.2 percentages of microenterprises were having low and high levels of profits respectively. It is further revealed that the highest percentage, i.e., 37 per cent microenterprises had low profits, whereas, 33.3 per cent and 29.6 per cent enterprises had enjoyed high and medium levels of profits among the well organized microenterprises. The Gamma (γ) measure shows a coefficient of 0.45 indicating a moderate positive association between organizing function and profits of the enterprises. The level of significance 0.002 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the organizing function and the profits of the microenterprises in the study area.

Directing and Performance of Microenterprises

Besides planning and organizing, microenterprises are also required to direct their activities for achieving their goals. By giving proper and timely direction, such enterprises are likely to grab the opportunities in the market and minimize the threats to their business. Therefore, it is believed that an enterprise having effective direction ensures good amount of success through carrying out the desired activities. Data relating to directing function and performance of the selected microenterprises are presented in Table 3.

Table 3: Directing and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	**Medium**	**Low**	**Total**	**High**	**Medium**	**Low**	**Total**	**High**	**Medium**	**Low**	**Total**
Effective directing	6 (54.5)	5 (45.5)	0 (0.0)	11 (100.0)	0 (0.0)	3 (27.3)	8 (72.7)	11 (100.0)	8 (72.7)	3 (27.3)	0 (0.0)	11 (100.0)
Well directing	11 (44.0)	10 (40.0)	4 (16.0)	25 (100.0)	4 (16.0)	10 (40.0)	11 (44.0)	25 (100.0)	3 (12.0)	10 (40.0)	12 (48.0)	25 (100.0)
Ineffective directing	0 (0.0)	7 (36.8)	12 (63.2)	19 (100.0)	13 (68.4)	6 (31.6)	0 (0.0)	19 (100.0)	0 (0.0)	6 (31.6)	13 (68.4)	19 (100.0)
Total	**17 (30.9)**	**22 (40.0)**	**16 (29.1)**	**55 (100.0)**	**17 (30.9)**	**19 (34.5)**	**19 (34.5)**	**55 (100.0)**	**11 (20.0)**	**19 (34.5)**	**25 (45.5)**	**55 (100.0)**
Gamma (γ) Value	0.759				-0.840				0.759			
Significance Level	0.000				0.000				0.000			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

Among the 55 selected microenterprises, it is revealed that only 11 enterprises (20 per cent) had effectively directed their units, whereas, around 45.5 and 34.5 per cents were found to be well directing and ineffectively directing their activities respectively. Among the effectively directing enterprises, none was found to have low level of sales and while 54.5 per cent had high sales, the remaining 45.5 per cent had medium level of sales. In contrast, among the ineffectively directing microenterprises, while the highest percentage, i.e., 63.2 per cent had low level of sales, only 36.8 per cent had medium sales and none was found to be in the category of high sales. In case of well directing microenterprises, the highest percentage, i.e., 44 per cent had high sales and the remaining 40 and 16 per cents had experienced medium and low levels of sales respectively. Thus, it is observed that better directed enterprises had enjoyed higher level of sales as compared to others. The Gamma (γ) measure shows a coefficient of 0.75 indicating a high positive association between directing and sales. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the directing and the sales of the microenterprises in the study area.

Considering the expenses, among the effective directing microenterprises, none was found to have incurred high expense, whereas, a majority, i.e., 72.7 per cent had experienced low expense. Contrary to that, among microenterprises having ineffective directing, none (one per cent) was found to have fallen under the category of low expenses, rather a highest percentage, i.e., 68.4 per cent had incurred high expense and only 31.6 per cent had incurred low expense. Among the well directed microenterprises, only 16 per cent had incurred high expense, 40 per cent had medium expense and the remaining 44 per cent had incurred low expense. Thus, it is revealed that less percentage of enterprises having effective and well directed incurred lower level of expenses

compared to ineffective directed microenterprises. The Gamma (γ) test shows a coefficient of -0.84 indicating a high negative association between directing function and level of expense. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the directing function and the expense of the microenterprises in the study area.

With regard to the level of profit, it is observed that none of the microenterprises of ineffectively directed enterprises had enjoyed high profits; rather majority of them, i.e., 68.4 per cent, had low level and 31.6 per cent had medium level of profits. Among effectively directed microenterprises, while none was found to have low profits, the remaining 72.7 and 27.3 per cents had enjoyed high and medium profits respectively. It is further noticed that the highest percentage, i.e., 48 per cent microenterprises had low profits, whereas, 12 per cent and 40 per cent of well directed microenterprises had enjoyed high and medium levels of profits. The Gamma (γ) test shows a coefficient of 0.75 indicating a positive association between directing and sales. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the directing function and the profits of the microenterprises in the study area.

Controlling and Performance of Microenterprises

To succeed in business operations, enterprises need to monitor their activities continuously and accordingly control the operations through corrective measures. Thus, coordinating and controlling are the management functions which help the enterprises to perform their businesses in a desired manner. Data relating to controlling function and performance of the selected microenterprises are presented in Table 4.

Table 4: Controlling and Performance of Rural Microenterprises

Management Factor	Level of Sales				Level of Expense				Level of Profit			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Effective controlling	6 (66.7)	3 (33.3)	0 (0.0)	9 (100.0)	1 (11.1)	5 (55.6)	3 (33.3)	9 (100.0)	7 (77.8)	0 (0.0)	2 (22.2)	9 (100.0)
Well controlling	10 (35.7)	12 (42.9)	6 (21.4)	28 (100.0)	3 (10.7)	9 (32.1)	16 (57.1)	28 (100.0)	4 (14.3)	12 (42.9)	12 (42.9)	28 (100.0)
Ineffective controlling	1 (5.6)	7 (38.9)	10 (55.6)	18 (100.0)	13 (72.2)	5 (27.8)	0 (0.0)	18 (100.0)	0 (0.0)	7 (38.9)	11 (61.1)	18 (100.0)
Total	**17 (30.9)**	**22 (40.0)**	**16 (29.1)**	**55 (100.0)**	**17 (30.9)**	**19 (34.5)**	**19 (34.5)**	**55 (100.0)**	**11 (20.0)**	**19 (34.5)**	**25 (45.5)**	**55 (100.0)**
Gamma (γ) Value	0.710				-0.643				0.586			
Significance Level	0.000				0.000				0.002			

Note: Figures in the parentheses indicate percentage to row total.
Source: Own computation.

It is revealed from the data that among the surveyed microenterprises, only nine enterprises (16.4 per cent) had effectively controlled their units, whereas, around 51 and 32.6 per cents were found to be well controlling and ineffectively controlling their activities respectively. Among the effectively controlling enterprises, none was found to be having low sales and while 66.7 per cent had high sales, the remaining 33.3 per cent had medium level sales. In contrast, among the enterprises having ineffective controlling, while the highest percentage, i.e., 55.6 had low level of sales, only 38.9 per cent each had medium and a negligible 5.6 per cent had high sales. In case of well controlled microenterprises, the highest percentage, i.e., 42.9 per cent had medium sales. The remaining around 35.7 and 21.4 per cents had experienced high and low levels of sales respectively. The Gamma (γ) measure shows a coefficient of 0.71 indicating a high positive association between controlling and sales. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the controlling function and the sales of the microenterprises in the study area.

With regard to the expenses, among the effectively controlling microenterprises, only one enterprise (11.1 per cent) had incurred high expense, whereas, 55.6 per cent had experienced medium and 33.3 per cent had incurred low expense. In contrast to the above, among enterprises having ineffective controlling, none was found to have incurred low expense, whereas, 72.2 per cent had incurred high expense and only 27.8 per cent had incurred medium expense. Among the well controlled enterprises the highest, 57.1 per cent had low expense, 32.1 per cent had medium expense and the remaining 10.7 per cent had incurred high expense. Thus, it is revealed that enterprises having ineffective controlling were required to incur higher level of expenses as compared to others. The Gamma (γ) test shows a coefficient of -0.64 indicating a high negative association between controlling function and level of expense. The level of significance 0.000 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the controlling function and the expense of the microenterprises in the study area.

Concerning profits of the microenterprise, it is revealed that none of the microenterprises of ineffective controlling had enjoyed high profits; rather majority of them (61.1 per cent) had low level of profits. Among effective controlling microenterprises the highest percentage, i.e., 77.8 had enjoyed high profits, whereas, remaining only 22.2 per cent microenterprises were having low level of profits. It is further revealed that 42.9 per cent microenterprises each had medium and low profits, whereas, 14.3 per cent had enjoyed high level of profits among the well controlling microenterprises. The Gamma (γ) measure shows a coefficient of 0.58 indicating a positive association between controlling and profits of the enterprises. The level of significance 0.002 (one per cent) leads to the rejection of null hypothesis - there is no significant association between the controlling function and the profits of the microenterprises in the study area.

5. Conclusion

Microenterprises are widely recognized as the key engine of economic development. They stand as a vehicle to improve the quality of life for individuals, families and communities and to sustain a healthy economy and environment. As the performance of microenterprises is associated with several socio-cultural and demographic variables and attitudes of the entrepreneur including management capability, the firm and the business environment, research towards understanding the extent to which the management factors are associated with the performance of microenterprises assumes importance. The present study attempts to examine the association between the

management factors such as planning, organizing, directing and controlling and the performance of microenterprises. Though it is found that a high positive association between planning and sales as well as profits exists, there is a high negative association between planning and expenses. Similarly, high positive associations between the other functions of management such as organizing, directing and controlling with sales and profits were found. Overall, the study reveals significant association between the management factors and the performance of microenterprises in terms of sales, expense and profits. Thus, on the basis of the above empirical findings, the microenterprises should carry out the management functions in a proper way to achieve a better performance of their enterprises to further contribute to the socio-economic development of the country.

References:

Edralin, Divina M. (1998). *Entrepinoy Paths to Successful Entrepreneurship.* Philippines: De La Salle University Press, Inc.

Honig, B. (1998). What determines Success? Examining the Human, Financial, and Social Capital of Jamaican Microentrepreneurs. *Journal of Business Venturing*, 13 (5), 371-394.

Kanungo, R.N. (1998). *Entrepreneurship and Innovation.* New Delhi: Sage Publications India Pvt. Ltd.

Loening, J., Rijkers, B. and Soderbom, M. (2008). Non-farm Microenterprise Performance and the Investment Climate: Evidence from Rural Ethiopia. Policy Research Working Paper 4577, The World Bank Africa Region, Agriculture and Rural Development Unit and Development Research Group.

Masakure, O., Cranfield, J. and Henson, S. (2008). The Financial Performance of Non-farm Microenterprises in Ghana. *World Development*, 36 (12), pp. 2733-2762.

Masakure, O., Henson, S. and Cranfield, J. (2009). Performance of Microenterprises in Ghana: A Resource-based View. *Journal of Small Business and Enterprise Development*, 16 (3), pp. 466-484.

Mel, de S., McKenzie, D. and Woodruff, C. (2008). Returns to Capital in Microenterprises: Evidence from a Field Experiment. *The Quarterly Journal of Economics*, 123 (4), 1329-1372.

National Institute of Statistics (2011). *Statistical Yearbook of Cambodia 2011*. Ministry of Planning, Royal Government of Cambodia, Phnom Penh, Cambodia.

Njanja, W.L., Rene, P. and Ogutu, M. (2010). An Investigation into the Effect of Management Factors on Performance of Micro, Small and Medium Enterprises in Kenya. *International Journal of Business and Management*, 5 (11), pp. 66-73.

Okurut, F.N. (2008). Determinants of Microenterprise Performance in Uganda. *The IUP Journal of Agricultural Economics*, 5 (1), pp. 77-87.

Pukar, K.C. (2012). Assessment of the Performance of Microenterprises in Rural Nepal over Time. *Journal of Case Research in Business and Economics*, 4, pp. 1-7.

Rankhumise, Edward M. and Rugimbana, Robert O. (2010). Micro Enterprise Owner Perspectives on Performance: Insights from selected Municipalities in Mpumalanga Province, South Africa. *Africa Journal of Business Management*, 4 (16), pp. 3500-3507.

Sinha, T. and Sen, M. (2011). Factors Influencing the Performance of Microenterprises in India: A Case Study of Jharkhand. *The IUP Journal of Entrepreneurship Development,* 8 (1), pp. 6-20.

Tata, J. and Prasad, S. (2008). Social Capital, Collaborative Exchange and Microenterprise Performance: The Role of Gender. *International Journal of Entrepreneurship*

and Small Business, 5 (3-4), pp. 373-388.

Welsh, Dianne H.B., Munoz, M.J., Deng, S. and Raven, Peter V. (2013). Microenterprise Performance and Microenterprise Zones (MEZOs) in China. *Management Decision*, 51 (1), pp. 25-40.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 42-65

Province-wise Growth of Primary Education in Cambodia

Manaranjan Behera[1] and Prum Sarin[2]

ABSTRACT

The present study has been undertaken to examine the province-wise growth of primary education in Cambodia in terms of gross enrollment ratio, attendance rate, repetition rate and drop-out rate over the period 1997-98 to 2008-09. Considerable improvements in the growth of gross enrollment ratio, attendance rate, repetition rate and drop-out rate were found in the country during the study period. Except the decline of drop-out rate of male students in the country, the increases in the gross enrollment ratio of male and female students, the declines in the repetition rate of male and female students, and decline in the drop-out rate of female students in primary education were significant during the period under study.

For further growth of primary education in the country, provision for more schools along with other necessary measures should be taken by the government as well as other relevant stakeholders.

Key Words: Growth, Gross Enrollment Ratio, Attendance Rate, Repetition Rate, Drop-out Rate

1. Introduction

Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. In addition, it plays a very crucial role in securing economic and social progress and improving income distribution (Ozturk, 2001).

The relationship between economic growth and education has been one of the central threads of economic analysis. Both Adam Smith in the 18th century and Alfred Marshall in the 19th century, addressed the question of how individual investments in "education" influence the wealth of nations. Throughout the 20th century, as Krueger and Lindahl (2001) point out in their survey of these issues, modern professional economists have been attempting to develop empirical estimates of the relationship between education and economic growth.

[1] Professor, Build Bright University, Cambodia. Mobile (855) 12 231 790, E-mail: mbehera04@yahoo.co.in

[2] Research Scholar, Build Bright University, Cambodia. Mobile (855) 12 277 764, E-mail: sarin.sarin@yahoo.com

The Cambodian economy has been changed from the planned economy to the market economy after the UN peace settlement in 1993. The country has become the member of ASEAN and subsequently WTO. Since the national economy of this country has been changed to meet the market economy, human resource development in the country has been considered as the main factor of influencing the national economic growth (Myers and Wharton, 2005). The country lacks human resources to meet the needs of economic growth. For the development of human resource, the government of Cambodia has been undertaking different measures with the support of UNESCO for improving the primary school education in the country since 2000 (UNESCO, 2011). Educational policies have been created and implemented by the government for the development of primary school education in the country. In this context, the present study makes an attempt to assess the growth of primary school education in Cambodia.

2. Literature Review

Education is one of the most powerful instruments for reducing poverty and inequality and lays a foundation for sustained economic growth. Numerous studies on educational development have shown that the growth of education is linked to the perceived economic value of educational credentials, i.e., policy of education, organizational structure of education, effectiveness of schooling, demands for education, and so on. The growth of education is found to be important as it helps to enhance the economic growth of a country. So, the government of every country makes its national budget allocation for improving its education sector. In order to make sense of the share of education finance allocation, Thomas (1992) introduced the common policy of educational development which was the system of grants-in-aid. This system was introduced as the particular measure of doing cooperation and mission in educational development among some countries.

The growth of education, according to IDS (2007), was found to play a significant role in social and economic development in the countries of sub-Saharan Africa. This was very much clear after the investment of education had resulted in increase in skills of people, individual earnings and productivities of people in those countries.

During the 1960s, the economic growth in South Korea brought changes in its policy on social affairs and culture. Sherman and Poirier (2007) explained that, along with these changes, education in South Korea made notable progress. This was because the most conspicuous advances during the period were the expansions of educational quantities, educational facilities, and the number of teachers in the country. Over the period of the first six-year plan, nearly 100 per cent of school-aged children were enrolled in primary education. Furthermore, the growth of enrollment in primary education also caused the enrollment rates to triple in the middle and high schools in South Korea in subsequent academic years. During this period, the growths of enrollments both in primary and secondary education outpaced the physical facilities so the classrooms were overcrowded. Therefore, double and triple shifts were required.

During 1949 to 1988, the growth rate of pupils in primary education increased by 20 per cent in China. The net enrollment rate of pupils in primary education in India increased from 20 per cent in 1949 to 25 per cent in 1988, but the growth of net enrollment rate was lower than that of the gross enrollment rate. During the same period, South Korea also showed the hallmark of expansion in the enrollment rate in primary education in the country (UNICEF, 1991).

The gross enrollment ratio in Egypt at the national level in pre-primary education was 1.12 per cent

in 1971, which increased to 29.05 per cent in 2010. But, the gross enrollment ratio in primary education in 2010 was 106.07 per cent, which increased from 62.70 per cent in 1978 (UNESCO, 2013).

Primary school net enrollment rates were below 60 per cent in poor districts compared to more well-off districts that had universal enrollment in Indonesia in 2010. The country was also trailing behind its neighbors in Early Childhood Education with gross enrollment rates of 21 per cent (World Bank, 2013).

The governments of Arab countries enhanced their budget provisions to a large extent for the increase in the enrollment rates of pupils in primary education during 1975 to 1991. As a result, the overall enrollment rate in primary education of Arab countries increased to 85 per cent (Maamouri and Morocco, 1998).

The net attendance rate (NAR) of primary education at national level in India was found to be 83 percent in 2006; this attendance rate was higher than that in 2000. In this school year, 85 per cent of boys and 81 per cent of girls were attending schools. On the other hand, 96 per cent of all primary-school-aged children of the richest households were found to be in schools. Among the poorest households, the NAR in primary school was found to be only 69 per cent, which was almost one third of the NAR among the richest households during the same school year (Huebler, 2007).

According to UNESCO, globally 32.2 million pupils repeated a grade in primary education and 31.2 million left school before achieving the last grade of this education level in 2010. Pupils who were over-age for their grade – due to late entry and/or repetition – were at greater risk of leaving school early. Girls were less likely than boys to enter primary school, but boys faced greater risks of repeating grades and leaving school early. Children with the least opportunities – arising from poverty and compounding disadvantages – were most likely to repeat grades and left school early. These shortcomings had meant loss of opportunities for children, especially the poorest, as well as unfulfilled investments made by families and governments. The costs were both indirect – in terms of children's developmental opportunities and life chances and, at the broader community level, in terms of poverty, slow economic growth and poorer public health status – and direct, with education systems spending much time, energy and resources on children who repeated grades or left school without successful learning (UNESCO, 2012).

In Cameroon, primary school repetition was high (40 per cent) and as such, constituted wastage particularly, and of course problematic to the state, parents and individual pupils/victims. It is conceptualized that efficiency as applied to educational achievement combines both qualitative and quantitative variables and relates inputs to outputs. An efficient educational system should enable students to graduate within the time frame prescribed. If students spend more time than is required is considered as wastage of resources. To combat this phenomenon in the primary school system in Cameroon, the government has resorted to experiment on some strategies namely: Compensatory Education, Competency-Based Teaching Approach, Automatic/ Administrative Promotion in addition to the New Pedagogic Approach with apparently significant results in the reduction of repeatition. These strategies based on a pupil-centred philosophy/pedagogy tend to promote learning and consequently, increase promotion in primary schools (George, 2005).

UNESCO (2000) reported the growth of repetition rate in basic education of Sudan during the academic years 1990 to 1999. During the period,

the average annual repetition rate in basic education at the national level in Sudan increased, but it was not high. The overall increase from grade one to grade five was 11.4 per cent: the growth rate of males was 10.9 per cent and females 12 per cent. The growths of repetition rates were found to be different from one state to another. Therefore, the government of Sudan called for *Khartoum* as the model of improvement for the states because its government did not allow pupils in primary education to repeat in previous grades for more than two years, and after two years of repetitions he/she would be promoted automatically to the next grade.

In 2010, dropout rates were highest in Chad (72 per cent), Uganda (68 per cent) and Angola (68 per cent), where more than two out of three children starting primary school were expected to leave before reaching the last grade. In contrast, dropout rates were lowest in Mauritius (2 per cent) and Botswana (7 per cent). The Latin American and the Caribbean region had the third-highest regional dropout rate to the last grade of primary education at 17 per cent. Yet, the situation had been improving over the past decade, especially in Belize, Guatemala, Honduras and El Salvador, although rates remained within the range of 15 per cent to 24 per cent. The lowest rates (below five per cent) were found in Argentina, Cuba, Jamaica, Mexico and Uruguay. Nevertheless, high dropout rates persisted in the countries such as: Nicaragua, where 52 per cent of pupils left school without completing primary education and Guatemala, with a dropout rate of 35 per cent, followed by Saint Kitts and Nevis (26 per cent) and Honduras (24 per cent) (UNESCO, 2012).

The proportion of high school dropouts among 16- to 24-year-olds in the U.S. had declined by more than half since 1967, from 17 to seven per cent in 2012. A range of factors had been seen for the increase in a student's risk of dropping out, including high rates of absenteeism, low levels of school engagement, low parental education, work or family responsibilities, problematic or deviant behavior, moving to a new school in the ninth grade, and attending a school with lower achievement scores (Child Trends, 2013).

Sub-Saharan Africa had been one of the lowest achieving regions in terms of education. But after Education for All (EFA) by 2015 movement initiated by UNESCO in 2000, Sub-Saharan Africa region had made a significant progress. Primary school enrollment rates had increased in most of the countries and dropout ratios of school had dropped considerably. According to UNESCO (2010), between 1999 and 2000, the average net enrollment rate to primary school had been increased from 56 per cent to 73 per cent. Also out-of-school population had reduced by nearly 13 million from 1999 to 2007. But 25 per cent of Sub-Saharan region's primary age school children were still out of school which was accounted for nearly 45 per cent of the global out-of-school population (Asankha and Takashi, 2008).

Thus, the studies found that there had been improvements in the enrollment and attendance of students, and reductions in repetition and dropout rates of students in primary school education in different countries over different time periods because of the implementation of different intervention programs by the governments and international bodies. It is in this context, the present study has been undertaken to examine the growth of primary education over the period 1997-98 to 2008-09 in Cambodia.

3. Objectives of the Study

The specific objectives of the study are as follows:

i. To assess the growth of enrollment ratio in primary education in Cambodia.
ii. To find out the growth of attendance rate in primary education in Cambodia.

iii. To determine the growth of repetition rate in primary education in Cambodia.
iv. To assess the growth of drop-out rate in primary education in Cambodia.

4. Research Methodology

The present study has examined the growth of primary education in Cambodia over the period 1997-98 to 2008-09. It has been measured in terms of enrollment ratio, attendance rate, repetition rate, and drop-out rate across 24 provinces/cities in the country. The relevant secondary data have been collected from the Ministry of Education, Youth and Sport (MoEYS), Royal Government of Cambodia (RGC) and the National Institute of Statistics (NIS), Cambodia. The growth rates of the above indicators over the period 1997-98 to 2008-09 have been estimated by using the following formula:

$y = ab^t$

Where,

y= The variable for which growth rate has been calculated

t= Time period, and a and b are constants, and

b= 1+r

r = The rate of growth of the concerned variable

The above equation is converted into linear form by taking logarithm of both sides, i.e.,

$\log y = \log a + t \log b$

$Y = \alpha + \beta t$

Where, $Y = logy$

$\alpha = \log a$

$\beta = \log b$

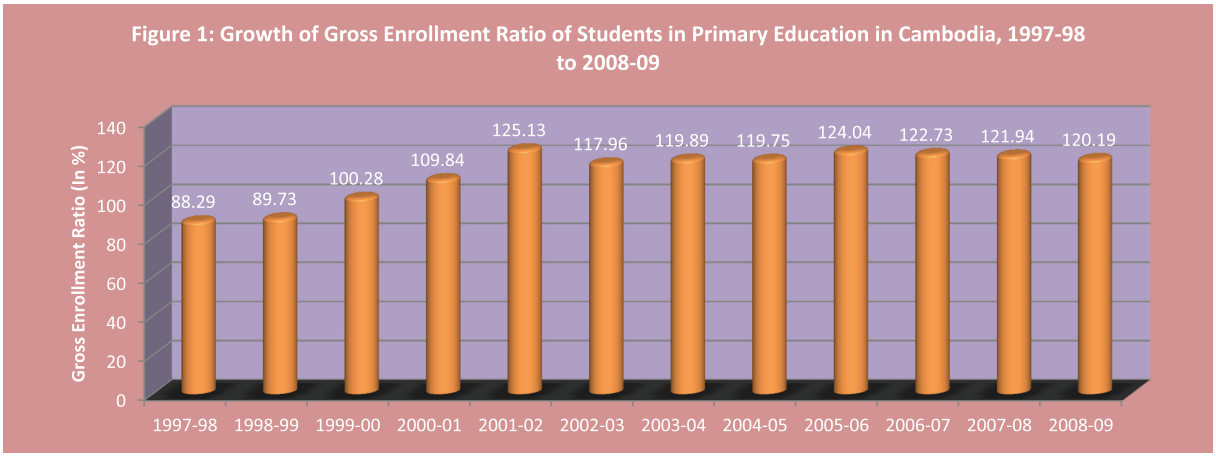
5. Growth of Primary School Education

The present section has discussed the growth of primary school education across different provinces/cities of Cambodia over the period 1997-98 to 2008-09 in terms of enrollment ratio, attendance rate, repetition rate and drop-out rate. The section is divided into four sub-sections, i.e., growth of enrollment ratio, growth of attendance rate, growth of repetition rate and growth of drop-out rate.

5.1 Growth of Enrollment Ratio

The average annual growth rate of gross enrollment ratio at national level in Cambodia over the period 1997-98 to 2008-09 in primary education was 2.86 per cent. In the provinces such as Svay Rieng, Takeo, Kampot, Kandal, Prey Veng, Kratie and Phnom Penh, the average annual growth rates of gross enrollment ratio were lower than that of the national average while in the other 17 provinces/cities of the country the growth rates were higher. The growth rates varied between 0.81 to 9.87 per cent across the provinces/cities in the country. At the national level, the growth rate of gross enrollment ratio in primary education over the period 1997-98 to 2008-09 was found to be significant at one per cent level of significance ($t = 4.34$ and sig. level = 0.0014). Similarly, in the provinces/cities such as Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kandal, Kep, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Pailin, Preah Vihear, Prey Veng, Pursat, Ratanakiri, Siemreap, Kampong Som, and Stung Treng, the growth rates of gross enrollment ratio in primary education were found to be significant at five per cent level of significance. But the growth rates were not significant in Kampot, Phnom Penh, Svay Rieng, and Takeo provinces. The reasons for the increase in gross enrollment ratio in primary education during the academic years 1997-98 to 2008-09 were because of safety, security and political stability in the country, improvement in living conditions, developmental activities in the country and understanding of the people on the need of education, which took place after the civil wars in the country (Chandler, 1991; Martin, 1986; UNICEF, 2007; and Wikipedia, 2008). Further, during the study period, primary education

became free in the country, and the government of Cambodia had built many new primary schools in the villages where the enrollments of the children were low (World Bank, 2006 and Im, 2009) (Table 1).



The growth of gross enrollment ratio of male students in primary education at the national level was 2.32 per cent over the period. This growth rate was higher than that in Phnom Penh, Svay Rieng, Takeo, Kandal, Kampot, Prey Veng, and Kratie provinces but lower than the other 17 provinces/cities in the country. In all the 24 provinces/cities in the country, during the study period, the gross enrollment ratios of male students in primary education were found to have increased over the period, and the growth rate varied between 0.24 to 9.35 per cent. There was significant growth of gross enrollment ratio of male students in primary education at the national level during 1997-98 to 2008-09, which was revealed from the 't' value and its significance level (t=3.43 and p=0.006). Similarly, in the provinces such as Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kep, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Pailin, Preah Vihear, Ratana Kiri, Siemreap, Kampong Som, and Stung Treng, the growth rates were significant at five per cent level of significance (Table 2).

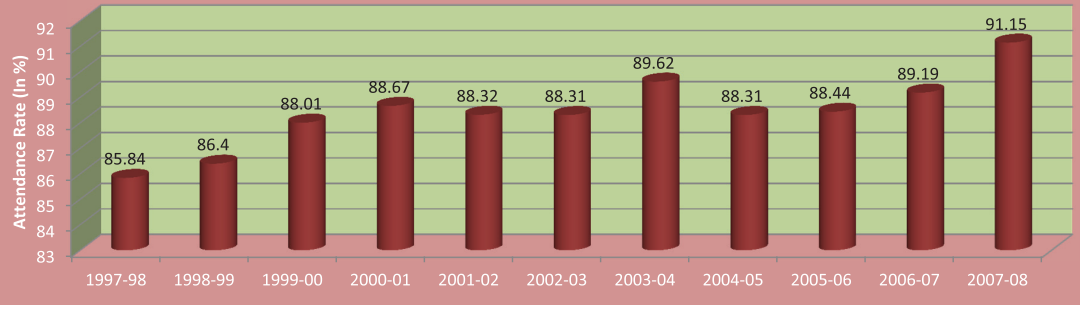
The average annual growth rate of gross enrollment ratio of female students in primary education at national level over the period 1997-98 to 2008-09 was 3.46 per cent, which was higher than that of males. In Banteay Meanchey, Pursat, Kampong Thom, Kampong Cham, Kampong Speu, Otdar Meanchey, Kep, Kampong Som, Kampong Chhnang, Siemreap, Preah Vihear, Stung Treng, Mondul Kiri, Koh Kong, Pailin and Ratana Kiri provinces, the growth rates were higher than that of the national average. In all the 24 provinces/cities in the country, the growth rates of female students ranged from 1.37 per cent to 10.52 per cent over the study period. The growth rate was found to be significant at one per cent level of significance (t=5.36 and p=0.0003) at national level. Further, except Svay Rieng and Takeo provinces, in all the other provinces of the country the growth rates of gross enrollment ratio of female students in primary education were significant at five per cent level of significance (Table 3).

5.2 Growth of Attendance Rate

At the national level, the growth of attendance rate of students in primary education over the period

1997-98 to 2007-08 was 0.41 per cent. The growth rates ranged between 0.23 per cent and 1.70 per cent across the 24 provinces/cities in the country over the study period. In Pailin, Battambang, Phnom Penh, Kampong Som, Kampong Cham and Kep provinces, the growth rates were lower than the national average. On the other hand, the growth rates of attendance rate in the other 18 provinces/cities in the country were higher than the national average. At the national level, the growth of attendance rate in primary education was found to be significant at one per cent level of significance (t=4.55 and p=0.0014). Moreover, in the 19 provinces/cities, i.e., Banteay Meanchey, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kandal, Kampot, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Stung Treng, Svay Rieng, and Takeo, the growths of attendance rate of students in primary education were significant at five per cent level of significance. But the growth rates were found to be not significant in Battambang, Kep, Pailin, Kampong Som, and Phnom Penh provinces/cities during the same period (Table 4).

Figure 2: Growth of Attendance Rate of Students in Primary Education in Cambodia, 1997-98 to 2007-08



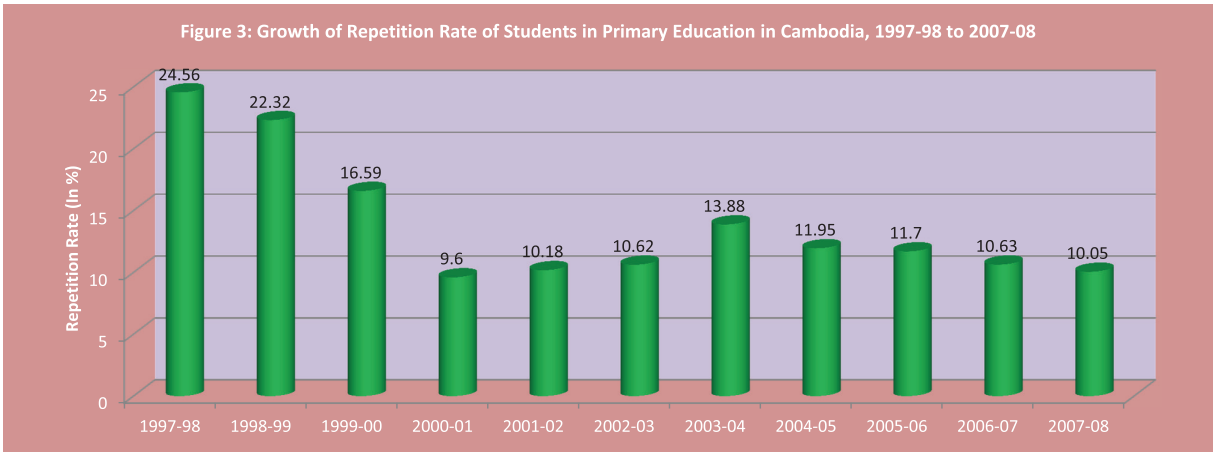
The growth rate of attendance rate of male students in primary education at national level during 1997-98 to 2007-08 was estimated at 0.18 per cent. In Battambang, Pursat, Svay Rieng, Kep, Kampong Cham, Kampong Som provinces, the growth rates were lower than that of the national average, whereas, in the other 18 provinces/cities of the country it was higher than the national average. There was significant growth rate of attendance rate of male students in primary school at the national level over the period 1997-98 to 2007-08 (t = 4.55 and p = 0.0014). The growths of attendance rate of male students in primary education during the period under study were also found to be significant in the provinces/cities such as Banteay Meanchey, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kandal, Kampot, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Stung Treng, Svay Rieng, and Takeo (Table 5).

In case of female students, the growth of attendance rate in primary education was 0.70 per cent over the period 1997-98 to 2007-08 at national level, and this was higher than that of the provinces/cities such as Phnom Penh, Kampong Som, Kampong Cham, Battambang, Pailin, and Kep. The growth rates in the provinces/cities varied between 0.05 to 2.18 per cent during the period under study. In this period, the growth of attendance rate of female students in primary education at the national level was found to be significant at one per cent level of significance (t=7.02 and p=6.20E-05). Similarly, the growth rates were significant at one per cent level of significance in Banteay Meanchey,

Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Stung Treng, Svay Rieng and Takeo provinces during 1997-98 to 2007-08 (Table 6).

5.3 Growth of Repetition Rate

The average annual growths of repetition rates of students in primary education during 1997-98 to 2007-08 were found to be negative in all the 24 provinces/cities of the country. The decline rates of repetition rate of students across the provinces/cities in the country ranged from -3.45 per cent to -12.80 per cent. At the national level, the average annual decline in repetition rate of students in primary education was -6.79 per cent during the study period, and this was found to be significant at five per cent level of significance (t=-3.028 and p=0.014). In the provinces/cities such as Kampong Cham, Kampong Thom, Kep, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Kampong Som, Stung Treng, Svay Rieng, and Phnom Penh, the declines of repetition rate were also found to be significant at five per cent level of significance. The reasons for the reduction of repetition rates of students in primary education during the study period were the same as the case of growth rate of enrollment ratios in primary education. Moreover, the government has made the policy that the pupil who fails in a grade can repeat only twice during the study in primary school, and then he/she must be promoted automatically to the next grade (MoEYS, 2001) (Table 7).



In case of male students, across all the provinces/cities, the growth rates of repetition rate ranged from -1.86 per cent to -12.24 per cent. The growth rate was -6.25 per cent at the national level, which was significant at five per cent level of significance (t=-2.32 and p=0.05). Similarly, the declines of repetition rate of male students in primary education in the provinces/cities such as Kampong Cham, Koh Kong, Mondul Kiri, Phnom Penh, Prey Veng, Pursat, Ratana Kiri, Kampong Som, Stung Treng, and Svay Rieng were also found to be significant at five per cent significance level during the study period (Table 8).

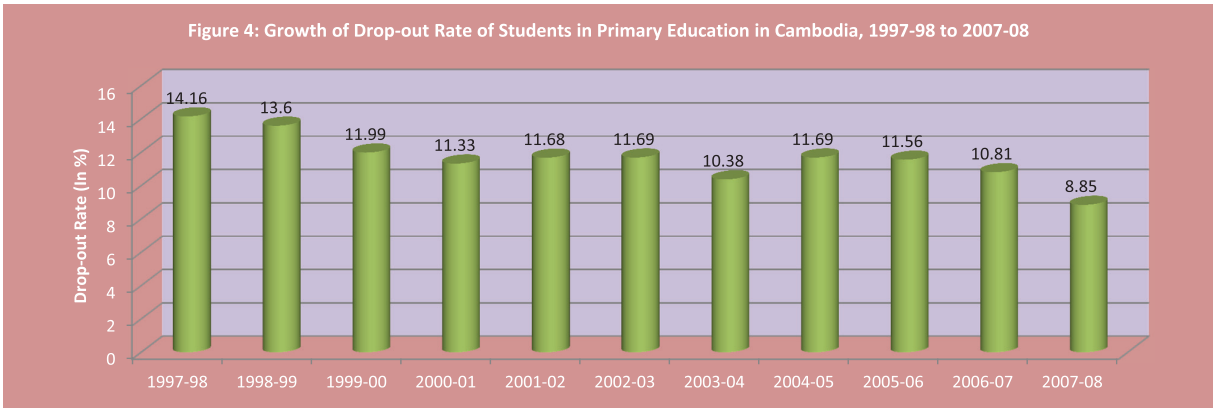
For female students, the average annual growths of repetition rate in primary education were also negative in all the 24 provinces/cities in Cambodia during 1997-98 to 2007-08, and these growth rates varied between -11.70 per cent to -4.17 per cent. In the country as a whole, the growth rate was

estimated at -7.76 per cent. The decline of repetition rate of female students in primary education at the national level over the period 1997-98 to 2007-08 was found to be significant at one per cent level of significance, which can be seen from 't' value (-3.42) and its probability value (0.008). It was also found that the growths of repetition rate of female students were significant at five per cent level of significance in the provinces/cities such as Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kampot, Kandal, Kep, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey Phnom Penh, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Kampong Som, Stung Treng and Svay Rieng (Table 9).

5.4 Growth of Drop-out Rate

During 1997-98 to 2007-08, the average annual growth of drop-out rate of students in primary education in the country as a whole was negative, i.e., -3.10 per cent. Except Phnom Penh city, in all the other 23 provinces/cities of the country, the average annual growths of dropout rates were found to be negative during the study period. The decline in drop-out rate of students in primary education was because of the implementation of the government policies in the reduction of drop-out rates in the country (MoEYS, 2000; 2001; 2006; 2008; and 2009). Although the government had implemented the national education policy for achieving primary education goals, pupils were still found to be completely outside of classrooms in the country during the study period (SCP, 2008). In Phnom Penh city, the growth of average annual drop-out rate of students in primary education was 3.13 per cent. This is because Phnom Penh is the capital of Cambodia, and young pupils in the city had joined in the labour force to earn in order to support their families. Further, the costs of schooling in Phnom Penh were high. Many pupils could not pay school fees and fees for books because of their poor family conditions (MoP, 1999).

The decline in drop-out rate in primary education at the national level during the study period was found to be significant at the significance level of one per cent (t=-4.39 and p=0.002). Similarly, in the provinces/cities such as Banteay Meanchey, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Stung Treng, Svay Rieng, and Takeo, the declines in drop-out rates of students were also significant during the study period (Table 10).



The growth of drop-out rate of male students in primary education during 1997-98 to 2007-08 in the country as a whole was -1.42 per cent. Except Phnom Penh and Pailin, in the other 22 provinces/ cities in the country, the growths of drop-out rates of male students were also found to be negative during the study period. The decline in drop-out rate of male students in primary education at the national level was found to be not significant (t=-1.80 and p=0.10). But the declines were significant in Kampong Chhnang, Kampot, Kandal, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Stung Treng, and Takeo during the study period (Table 11).

At the national level, the average annual growth of drop-out rate of female students in primary education during 1997-98 to 2007-08 was negative, i.e., -4.89 per cent. Except Phnom Penh, in all the other provinces/cities, the growths of drop-out rates of female students were found as negative during the study period. The decline in drop-out rate of female students in primary education at the national level was significant at one per cent significance level (t=-6.76 and p=8.2E-05). In the provinces/cities such as Banteay Meanchey, Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Kampot, Kandal, Koh Kong, Kratie, Mondul Kiri, Otdar Meanchey, Preah Vihear, Prey Veng, Pursat, Ratana Kiri, Siemreap, Stung Treng, Svay Rieng, and Takeo, the declines of drop-out rate of female students were also significant during the period (Table 12).

6. Conclusion

The analysis on growth of primary education in Cambodia reveals that there were considerable improvements in primary school education over the study period in Cambodia. The growth rates of gross enrollment ratio and attendance rate were found to be significant, and also there were significant declines in repetition and drop-out rates during the period under study. Similarly, the growths of enrollment ratios and attendance rates of male and female students were significant over the period. Significant declines were seen in the repetition rates of male and female students in primary education during the period in the country. Though there was no significant decline in the drop-out rate of male students during the study period but considerable decline in drop-out rate was found in case of female students in primary education.

For further growth of primary education in the country, provision for more schools along with other necessary measures should be taken by the government as well as other relevant stakeholders.

References

Asankha, P. and Takashi, Y. (2008). *Impacts of Universal Secondary Education Policy on Secondary School Enrollments in Uganda*. [Online] Available: http://www.wbiconpro.com/226-Allegadara.pdf

Chandler, D.P. (1991). *The Tragedy of Cambodian History*. New Haven: Yale University Press.

Child Trends (2013). *High School Dropout Rates*. [Online] Available: http://www.childtrends.org/?indicators=high-school-dropout-rates

George, F.E. (2005). *Strategies to Reduce Repetition in Cameroon Primary Schools.* [Online] Available: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.136.6787&rep=rep1&type=pdf

Huebler, F. (2007). *International Education Statistics: Primary School Attendance in India in 2006*. [Online] Available: http://huebler.blogspot.com/2007/11/primary-school-attendance-in-india-in.html

IDS (2007). *Eldis is one of a Family of Knowledge Services from IDS.* [Online] Available: http://eldis.org/go/topics/resource-quides/education/key-issues/education-and-growth

Sethy, I. (2009). *Closing Remark and Report on the Results of the Congress during the Closing Ceremony of the National Education Congress*. The National Institute of Education, Cambodia.

Krueger, A. and Lindahl, M. (2001). Education for Growth: Why and for Whom? *Journal of Economic Literature*, 39, pp. 1101-1136.

Maamouri, M. and Morocco, M. (1998). *Language Education and Human Development: Arabic Diglossia and its Impact on the Quality of Education in the Arab Region.* International Literacy Institute, University of Pennsylvania, USA.

Martin, M.A. (1986). *Vietnamesed Cambodia: A Silent Ethnocide* (Issue 7 of Indochina Report). Executive Publications.

MoEYS (2000). *Annual Report on Education in Academic Year 1999-00 in Cambodia.* Ministry of Education, Youth and Sport, Royal Government of Cambodia, Cambodia.

MoEYS (2001). *Annual Report on Education in Academic Year 2000-01 in Cambodia.* Ministry of Education, Youth and Sport, Royal Government of Cambodia, Cambodia.

MoEYS (2006). *Annual Report on Education in Academic Year 2005-06 in Cambodia.* Ministry of Education, Youth and Sport, Royal Government of Cambodia, Cambodia.

MoEYS (2008). *Annual Report on Education in Academic Year 2007-08 in Cambodia.* Ministry of Education, Youth and Sport, Royal Government of Cambodia, Cambodia.

MoEYS (2009). *Annual Report on Education in A cademic Year 2008-09 in Cambodia.* Ministry of Education, Youth and Sport, Royal Government of Cambodia, Cambodia.

MoP (1999). *National Report of Cambodia on the Follow Up to the World Summit for Children.* Ministry of Planning, Royal Government of Cambodia.

MoP (2001). *National Report of Cambodia on the Follow Up to the World Summit for Children.* Ministry of Planning, Royal Government of Cambodia.

Myers, A. and Wharton, D. (2005). *The Cross Border Economics of Cambodia, Lao, Thailand and Viet Nam.* Development Analysis Network.

Ozturk, I. (2001). The Role of Education in Economic Development: A Theoretical Perspective. *Journal of Rural Development and Administration*, 1 (33), pp. 39-47.

SCP (2008). *Cambodian Street Children Profile.* [Online] Available: http://www.friends-international.org /resources

Sherman, D.J. and Poirier, M.J. (2007). *Educational Equity and Public Policy: Comparing Results from 16 Countries.* Institute for Statistics, Montreal.

Thomas, R.M. (1992). *Education's Roles in National Development Plans: Ten Country Cases.* Praeger.

UNESCO (2000). *Secondary Education Regional Information Base: Country Profile-Cambodia.* Bangkok.

UNESCO (2010). *Global Campaign for Education.* [Online] Available: http://www.org/en/ecosoc/newfunct/pdf/background_paper/

UNESCO (2011). *Education.* [Online] Available: http://www.unesco.org/new/en/phnompenh/education/

UNESCO (2012). *Stumbling Blocks to Universal Primary Education: Repetition Rates Decline but Dropout Rates Remain High.* [Online] Available: http://www.unesco.org/new/en/media-services/

UNESCO (2012). Opportunities Lost: The Impact of Grade Repetition and Early School Leaving. *Global Education Digest 2012*, Montreal, Canada.

UNESCO (2013). *Egypt–school Enrollment.* [Online] Available: http://www.indexmundi.com/facts/egypt/school-enrollment

UNICEF (1991). *Basic Education and National Development.* New York.

UNICEF (2007). *Universal Primary Education: Reaching the Unreached in Cambodia.* New York.

WFP (2007). A *Survey on Primary Education*. [Online] Available: http://www.food securitytlas.org/kh m/country/primary

Wikipedia (2008). *History of Cambodia*. [Online] Available:http://en.wikipedia.org/wiki/History_of_Cambodia

World Bank (2006). *Halving Poverty by 2015: Cambodia Poverty Assessment 2005.* Cambodia.

World Bank (2013). *World Bank and Education in Indonesia.* [Online] Available: http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/

Table 1: Province/City-wise Growth of Gross Enrollment Ratio in Primary Education during 1997-98 to 2008-09 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	89.89	94.92	102.42	114.76	129.96	126.19	125.76	127.18	133.19	132.01	130.10	127.23	3.24	4.81	0.0007
2	Battambang	81.02	97.20	102.97	113.83	131.25	122.16	125.96	124.29	128.67	125.68	119.91	121.50	2.92	3.34	0.0075
3	Kampong Cham	80.41	78.89	97.88	103.79	125.18	116.45	118.46	115.44	112.31	117.19	121.04	118.43	3.39	3.84	0.0033
4	Kampong Chhnang	81.97	81.02	94.35	100.30	117.69	119.21	122.36	121.61	128.75	124.66	126.39	123.70	4.23	5.83	0.0002
5	Kampong Speu	93.29	92.24	98.57	114.75	132.64	123.40	123.11	130.07	129.73	135.38	131.00	129.63	3.39	4.99	0.0006
6	Kampong Thom	87.25	89.28	91.24	101.03	119.04	113.76	112.31	110.65	123.09	126.51	126.38	122.43	3.52	6.66	0.0001
7	Kampot	89.31	85.18	108.46	118.71	131.71	122.25	116.76	104.57	113.72	120.19	117.88	115.17	1.94	2.04	0.0684
8	Kandal	98.48	96.72	109.77	120.74	129.54	132.25	132.37	130.95	141.67	122.08	120.10	117.84	1.94	2.28	0.0457
9	Kep	88.97	87.89	93.09	108.09	114.76	116.50	113.39	116.04	120.00	132.96	131.91	129.80	3.86	9.26	0.0000
10	Koh Kong	64.60	61.51	65.73	78.89	91.45	94.66	93.09	97.06	98.89	107.38	110.05	124.04	6.18	10.41	0.0000
11	Kratie	99.85	91.13	95.49	104.47	111.05	102.30	113.91	112.56	123.58	117.62	124.25	120.61	2.59	6.55	0.0001
12	Mondul Kiri	76.55	92.81	66.05	70.59	90.21	89.55	103.89	107.72	127.85	121.17	134.55	135.20	6.31	6.21	0.0001
13	Otdar Meanchey	-	-	96.91	112.14	134.83	106.40	117.42	134.39	143.40	138.81	138.14	137.28	3.56	3.52	0.0078
14	Pailin	33.81	44.28	90.94	118.65	144.64	136.45	151.01	138.10	132.35	130.48	117.72	133.07	9.87	3.06	0.0119
15	Phnom Penh	103.59	99.52	111.64	112.02	118.97	103.72	109.95	116.73	123.99	115.80	109.53	109.40	0.78	1.58	0.1442
16	Preah Vihear	88.98	87.08	85.97	90.75	104.68	103.19	116.75	126.38	146.18	134.32	138.20	138.30	5.46	9.36	0.0000
17	Prey Veng	91.13	88.66	101.82	119.99	133.09	118.34	132.56	133.01	127.66	120.57	120.69	116.98	2.52	2.64	0.0249
18	Pursat	90.08	89.90	90.14	97.63	118.61	124.22	104.29	107.27	106.90	127.39	125.15	121.41	3.07	4.31	0.0016
19	Ratana Kiri	49.42	49.71	45.82	53.40	70.83	72.95	72.24	80.40	90.88	94.33	102.99	107.32	8.44	12.52	0.0000
20	Siemreap	81.40	84.00	86.35	95.57	117.04	124.37	130.46	133.28	136.42	137.95	132.67	128.42	5.25	6.19	0.0001
21	Kampong Som	72.22	98.76	91.98	97.20	115.00	106.31	115.66	118.59	127.43	141.15	130.32	123.43	4.62	5.99	0.0001
22	Stung Treng	63.05	65.52	84.61	96.20	107.76	108.81	111.04	106.23	121.51	109.25	113.02	113.18	5.12	4.67	0.0009
23	Svay Rieng	99.08	100.04	109.27	120.95	134.53	120.07	110.48	112.21	115.56	113.15	117.36	113.26	0.81	1.19	0.2603
24	Takeo	91.47	100.55	113.78	121.11	133.06	115.99	117.49	112.53	120.53	114.45	113.54	113.09	1.04	1.37	0.1995
National		88.29	89.73	100.28	109.84	125.13	117.96	119.89	119.75	124.04	122.73	121.94	120.19	2.86	4.37	0.0014

Note: AAGR = Average Annual Growth Rate (%); GER = Gross Enrollment Ratio (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 2: Province/City-wise Growth of Gross Enrollment Ratio of Male Students in Primary Education during 1997-98 to 2008-09 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	96.59	103.12	108.11	121.18	137.37	129.68	129.22	131.60	137.51	137.12	132.68	129.88	2.73	4.24	0.0017
2	Battambang	84.19	101.83	108.23	118.78	137.59	127.98	133.21	133.05	133.79	126.90	117.19	121.92	2.47	2.49	0.0321
3	Kampong Cham	87.14	84.13	103.10	108.68	130.69	124.83	124.81	120.75	118.64	119.62	122.14	119.15	2.85	3.18	0.0098
4	Kampong Chhnang	89.76	87.89	101.80	106.78	124.30	124.78	126.27	125.42	130.53	127.55	127.68	125.80	3.45	5.06	0.0005
5	Kampong Speu	101.92	101.25	106.50	122.65	141.18	131.89	126.99	137.68	136.46	138.93	133.95	133.14	2.74	4.10	0.0022
6	Kampong Thom	91.65	93.18	94.55	104.26	122.54	114.62	114.12	110.63	123.47	128.14	127.81	124.01	3.14	6.16	0.0001
7	Kampot	93.85	89.52	116.73	126.80	140.98	127.48	123.72	108.48	125.57	123.87	119.10	116.17	1.58	1.52	0.1597
8	Kandal	105.57	100.90	116.35	127.00	136.91	138.30	136.44	136.41	149.24	124.49	121.89	119.50	1.52	1.68	0.1230
9	Kep	98.44	94.80	96.76	111.63	122.10	121.27	115.95	116.30	126.17	138.84	135.59	133.01	3.37	7.05	0.0000
10	Koh Kong	68.29	66.29	72.92	84.64	97.80	101.41	104.95	101.93	103.21	110.12	110.83	124.30	5.48	8.37	0.0000
11	Kratie	112.32	96.45	99.87	108.75	115.09	104.53	116.20	114.53	132.27	117.85	125.77	122.90	1.98	3.75	0.0038
12	Mondul Kiri	82.44	97.94	73.07	80.06	105.31	100.90	119.93	113.77	151.67	128.53	137.68	138.22	5.87	5.67	0.0002
13	Otdar Meanchey	-	-	103.39	117.30	145.20	106.05	119.17	137.48	135.81	142.18	140.43	139.32	2.90	2.64	0.0295
14	Pailin	36.98	46.36	99.91	129.53	155.44	130.93	155.84	153.60	144.87	132.37	120.51	135.64	9.35	2.88	0.0163
15	Phnom Penh	113.09	104.78	118.55	118.24	126.18	108.19	114.62	121.98	126.63	119.31	110.57	111.58	0.24	0.46	0.6530
16	Preah Vihear	94.05	90.64	90.57	95.77	110.36	105.96	119.76	131.06	145.11	134.09	140.01	139.24	4.90	9.06	0.0000
17	Prey Veng	98.95	94.10	110.28	129.34	143.75	124.13	137.07	140.20	131.97	125.23	122.25	118.13	1.88	1.86	0.0932
18	Pursat	97.29	96.71	99.29	105.94	126.98	134.70	104.83	110.83	110.59	134.92	126.45	123.02	2.37	2.93	0.0150
19	Ratana Kiri	58.67	60.27	58.11	66.06	88.94	88.88	84.03	91.67	106.98	104.57	111.04	116.52	7.09	10.08	0.0000
20	Siemreap	88.59	89.64	93.10	100.81	124.79	128.19	134.39	140.42	142.79	142.60	134.77	130.17	4.66	5.51	0.0003
21	Kampong Som	81.05	101.65	97.52	102.35	121.66	112.99	124.44	123.35	140.34	148.05	131.94	125.93	4.22	5.61	0.0002
22	Stung Treng	71.24	73.10	90.01	101.88	115.34	120.49	121.33	111.76	123.45	111.94	110.56	110.77	3.91	3.41	0.0067
23	Svay Rieng	107.87	105.57	118.54	129.61	144.63	131.13	116.22	120.33	119.94	115.11	120.15	116.48	0.26	0.35	0.7336
24	Takeo	97.36	106.52	122.63	128.97	140.52	119.43	118.52	115.05	124.74	117.94	116.39	117.62	0.64	0.83	0.4279
National		95.11	95.33	107.07	116.30	132.55	123.76	124.50	124.99	129.41	125.94	123.34	122.07	2.32	3.43	0.0065

Note: AAGR = Average Annual Growth Rate (%); GER = Gross Enrollment Ratio (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 3: Province/City-wise Growth of Gross Enrollment Ratio of Female Students in Primary Education during 1997-98 to 2008-09 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	83.07	86.77	96.51	108.08	122.95	122.44	122.06	122.57	128.61	126.73	127.35	124.45	3.80	5.24	0.0004
2	Battambang	77.63	92.39	97.52	108.70	125.20	116.20	118.66	115.73	123.35	124.33	123.07	121.05	3.41	4.39	0.0014
3	Kampong Cham	73.57	73.54	92.46	98.72	119.90	108.29	112.13	110.09	106.04	114.59	119.85	117.65	3.99	4.45	0.0012
4	Kampong Chhnang	73.96	73.96	86.80	93.71	111.44	113.57	118.36	117.72	126.90	121.69	125.03	121.52	5.12	6.47	0.0001
5	Kampong Speu	84.30	83.17	90.45	106.67	124.62	114.86	119.04	122.55	123.08	131.69	127.93	126.01	4.15	5.76	0.0002
6	Kampong Thom	82.77	85.31	87.85	97.72	115.64	112.85	110.42	110.68	122.69	124.84	124.94	120.82	3.93	6.99	0.0000
7	Kampot	84.31	80.42	99.90	110.33	123.05	116.66	109.58	100.42	102.72	116.28	116.52	114.04	2.37	2.61	0.0258
8	Kandal	91.10	92.22	102.95	114.26	122.56	125.99	128.06	125.34	133.98	119.45	118.14	116.02	2.41	2.98	0.0138
9	Kep	79.19	80.76	89.19	104.32	107.87	111.43	110.66	115.76	113.87	127.02	128.12	126.42	4.44	8.60	0.0000
10	Koh Kong	60.53	56.58	58.38	72.98	85.51	87.78	82.31	92.08	94.35	104.42	109.18	123.74	6.98	10.91	0.0000
11	Kratie	88.23	85.74	90.98	100.05	107.16	99.95	111.46	110.42	115.22	117.37	122.61	118.20	3.24	9.33	0.0000
12	Mondul Kiri	69.95	86.64	58.91	61.03	77.28	78.02	88.00	101.14	107.16	113.30	131.01	132.01	6.88	5.78	0.0002
13	Otdar Meanchey	-	-	90.17	106.39	125.20	106.81	115.48	131.05	152.66	135.21	135.63	135.09	4.28	3.96	0.0042
14	Pailin	30.05	42.17	82.06	107.87	134.59	143.21	145.75	123.81	120.52	128.42	114.69	130.21	10.51	3.20	0.0095
15	Phnom Penh	94.28	94.15	104.59	105.70	112.17	99.11	105.18	111.43	121.20	112.10	108.40	107.08	1.37	2.80	0.0188
16	Preah Vihear	83.57	83.43	81.28	85.59	99.29	100.24	113.58	121.65	147.35	134.58	136.29	137.31	6.07	9.39	0.0000
17	Prey Veng	82.80	82.78	93.10	110.33	123.22	112.19	127.71	125.58	123.07	115.65	118.97	115.69	3.27	5.81	0.0002
18	Pursat	82.38	82.62	80.89	89.28	110.79	114.00	103.69	103.57	103.09	120.03	123.76	119.68	3.90	5.81	0.0002
19	Ratana Kiri	38.54	37.39	33.18	40.41	56.41	56.75	59.65	68.16	74.58	82.90	94.12	97.42	10.52	12.31	0.0000
20	Siemreap	74.05	78.10	79.37	90.15	109.77	120.29	126.30	126.12	129.95	133.11	130.46	126.60	5.91	6.79	0.0000
21	Kampong Som	63.81	95.55	86.25	91.87	108.71	99.54	107.11	113.66	115.56	134.21	128.59	120.73	5.07	5.83	0.0002
22	Stung Treng	55.35	58.19	79.02	90.33	100.69	97.70	101.27	100.64	119.45	106.45	115.75	115.79	6.43	5.90	0.0002
23	Svay Rieng	89.76	93.85	99.74	112.05	125.14	109.38	104.53	104.32	110.98	110.99	114.33	109.82	1.44	2.22	0.0504
24	Takeo	84.97	94.12	104.62	112.96	126.00	112.25	116.35	109.84	116.10	110.76	110.45	108.34	1.50	1.94	0.0814
National		81.20	83.87	93.28	103.16	118.13	111.97	115.09	114.38	118.56	119.34	120.43	118.18	3.46	5.36	0.0003

Note: AAGR = Average Annual Growth Rate (%); GER = Gross Enrollment Ratio (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 4: Province/City-wise Growth of Attendance Rate of Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	85.74	83.34	85.20	86.18	86.70	85.27	86.19	87.28	88.21	87.31	91.49	0.58	4.11	0.0027
2	Battambang	84.84	86.57	86.98	86.09	86.53	86.27	88.23	86.00	86.96	85.95	89.47	0.23	1.94	0.0846
3	Kampong Cham	84.58	84.76	86.64	87.67	87.59	86.71	88.36	86.37	87.76	87.18	88.18	0.31	2.91	0.0175
4	Kampong Chhnang	84.48	85.09	85.58	89.07	91.33	91.06	92.72	90.93	91.14	93.53	93.52	1.03	6.42	0.0001
5	Kampong Speu	82.78	84.52	86.90	87.80	88.43	87.35	89.76	84.38	85.55	89.02	92.10	0.57	2.32	0.0452
6	Kampong Thom	82.48	83.73	86.79	86.89	86.02	86.50	85.66	86.10	87.06	87.25	91.36	0.61	3.75	0.0046
7	Kampot	85.81	88.02	89.03	90.96	88.81	89.20	90.04	90.63	89.50	91.57	93.02	0.53	4.33	0.0019
8	Kandal	88.61	89.69	90.33	91.70	91.01	91.66	93.20	92.98	92.04	93.04	93.14	0.46	6.12	0.0002
9	Kep	89.00	91.10	87.42	85.40	86.51	91.63	90.37	87.25	91.93	90.79	92.18	0.36	1.50	0.1690
10	Koh Kong	78.84	82.30	83.41	83.45	82.66	80.93	85.57	85.25	86.91	82.93	84.67	0.54	2.57	0.0302
11	Kratie	85.16	83.64	88.92	86.22	84.12	87.03	89.96	88.03	87.81	91.35	91.30	0.70	3.53	0.0064
12	Mondul Kiri	73.52	68.54	80.61	74.36	76.75	84.56	81.65	80.45	82.13	84.69	84.03	1.64	3.88	0.0038
13	Otdar Meanchey	-	75.65	79.58	78.88	83.77	84.86	83.94	86.71	85.61	84.55	88.88	1.45	5.54	0.0005
14	Pailin	83.38	84.04	88.63	89.76	82.86	90.86	87.91	88.22	85.18	84.62	86.29	0.09	0.30	0.7689
15	Phnom Penh	93.33	92.51	93.28	94.41	92.19	92.22	92.85	93.27	89.91	89.65	92.48	0.27	-2.12	0.0631
16	Preah Vihear	75.60	77.11	81.61	79.68	82.39	81.84	87.21	85.98	84.80	88.49	91.92	1.70	8.62	0.0000
17	Prey Veng	83.27	85.22	87.58	87.71	87.17	90.01	90.70	89.04	88.30	89.37	92.04	0.71	4.60	0.0013
18	Pursat	83.30	84.06	85.26	86.28	87.28	86.77	87.11	85.68	86.38	86.83	89.96	0.49	3.92	0.0035
19	Ratana Kiri	78.96	70.75	79.34	76.19	78.59	76.42	80.91	79.11	81.97	82.97	84.93	1.10	3.27	0.0096
20	Siemreap	83.25	83.01	86.71	86.88	88.32	85.76	86.26	84.38	87.01	89.26	89.44	0.52	2.84	0.0195
21	Kampong Som	85.50	86.28	88.32	87.02	87.38	88.78	90.24	86.56	84.34	87.62	91.71	0.27	1.21	0.2589
22	Stung Treng	80.49	79.58	85.65	84.13	82.44	87.28	86.95	86.01	86.45	89.81	91.34	1.13	5.58	0.0003
23	Svay Rieng	87.60	87.79	88.97	89.86	88.90	88.82	91.26	91.02	89.42	89.70	93.15	0.42	3.66	0.0053
24	Takeo	88.22	89.91	90.68	93.08	92.26	92.10	93.96	93.34	93.30	94.69	94.99	0.63	6.60	0.0001
	National	85.84	86.40	88.01	88.67	88.32	88.31	89.62	88.31	88.44	89.19	91.15	0.41	4.55	0.0014

Note: AAGR = Average Annual Growth Rate (%); AR = Attendance Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 5: Province/City-wise Growth of Attendance Rate of Male Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	87.40	85.03	86.14	87.40	87.45	85.27	86.69	87.87	88.05	86.70	90.95	0.31	2.10	0.0656
2	Battambang	85.85	87.62	87.62	86.87	87.01	86.27	88.57	86.30	86.37	84.87	88.89	0.01	0.05	0.9597
3	Kampong Cham	85.11	85.96	87.21	88.79	87.79	86.71	88.72	86.41	88.05	86.57	88.08	0.17	1.36	0.2083
4	Kampong Chhnang	86.79	86.15	86.12	89.18	91.67	91.06	93.03	90.64	91.33	92.96	92.79	0.79	5.14	0.0006
5	Kampong Speu	84.92	87.36	88.94	88.77	89.91	87.35	90.53	84.62	86.37	88.54	92.15	0.26	1.04	0.3240
6	Kampong Thom	84.03	85.25	88.08	87.56	85.82	86.50	85.62	86.29	86.94	86.08	90.90	0.33	1.89	0.0919
7	Kampot	86.78	89.48	90.26	91.66	89.64	89.20	89.92	90.43	89.42	91.16	92.93	0.33	2.43	0.0378
8	Kandal	90.30	91.14	91.52	93.15	90.99	91.66	93.59	93.30	92.37	92.77	92.76	0.24	2.78	0.0213
9	Kep	90.24	90.61	87.75	87.20	86.69	91.63	89.80	86.01	91.42	90.25	91.30	0.16	0.69	0.5048
10	Koh Kong	80.95	83.53	82.98	85.32	83.55	80.93	86.05	87.27	87.85	82.56	83.24	0.31	1.19	0.2637
11	Kratie	85.38	85.76	89.88	87.64	82.26	87.03	90.01	87.80	88.11	91.19	90.92	0.54	2.14	0.0606
12	Mondul Kiri	73.13	68.58	83.31	74.98	75.05	84.56	81.20	86.51	82.91	84.55	82.42	1.64	3.11	0.0126
13	Otdar Meanchey	-	80.13	82.61	81.70	84.71	84.86	85.85	86.28	87.13	84.85	87.98	0.86	5.39	0.0007
14	Pailin	83.85	90.55	88.26	94.68	85.72	90.86	88.35	88.31	85.58	84.62	87.40	0.24	-0.69	0.5058
15	Phnom Penh	93.83	93.71	94.45	95.39	92.57	92.22	92.71	93.22	90.28	89.26	91.50	0.45	-3.68	0.0051
16	Preah Vihear	77.13	79.40	82.73	82.21	84.65	81.84	87.71	87.40	85.63	87.72	90.47	1.33	6.84	8E-05
17	Prey Veng	85.91	87.68	90.16	89.78	87.56	90.01	91.77	89.61	88.72	88.96	92.50	0.38	2.27	0.0493
18	Pursat	85.54	86.65	86.31	86.79	88.17	86.77	87.42	85.75	85.92	85.63	89.50	0.12	0.91	0.3875
19	Ratana Kiri	83.36	73.12	80.49	77.26	82.20	76.42	81.69	82.11	83.17	81.72	85.62	0.72	1.83	0.0998
20	Siemreap	85.29	84.53	86.79	88.96	88.57	85.76	86.96	84.68	87.51	88.11	88.16	0.22	1.29	0.2284
21	Kampong Som	85.58	87.69	90.04	88.38	88.64	88.78	90.84	87.84	84.62	87.36	92.52	0.18	0.74	0.4790
22	Stung Treng	82.48	82.13	86.97	86.45	84.42	87.28	87.24	86.22	87.19	87.48	90.64	0.69	4.15	0.0025
23	Svay Rieng	90.70	89.76	91.10	91.61	89.55	88.82	91.56	91.79	90.66	89.99	93.09	0.14	4.03	0.0030
24	Takeo	90.33	91.93	91.88	94.42	92.81	92.10	94.26	93.66	93.61	94.86	94.61	0.37	4.03	0.0030
	National	87.23	88.08	89.20	89.92	88.75	88.31	90.04	88.65	88.72	88.63	90.77	0.18	1.84	0.0990

Note: AAGR = Average Annual Growth Rate (%); AR = Attendance Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 6: Province/City-wise Growth of Attendance Rate of Female Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	83.72	81.24	84.07	84.77	85.85	84.77	85.63	86.47	88.40	87.99	92.09	0.90	6.14	0.0002
2	Battambang	83.62	85.37	86.32	85.19	86.00	85.81	87.84	85.53	87.62	87.17	90.11	0.48	4.06	0.0028
3	Kampong Cham	83.96	83.40	85.93	86.42	87.36	86.51	87.97	86.21	87.45	87.86	88.30	0.47	4.52	0.0015
4	Kampong Chhnang	81.67	83.85	85.04	88.93	90.94	91.64	92.37	91.17	90.93	94.15	94.30	1.32	6.64	0.0001
5	Kampong Speu	80.23	80.85	84.54	86.69	86.72	87.74	88.92	84.36	84.67	89.55	92.05	1.00	3.75	0.0046
6	Kampong Thom	80.77	81.94	85.39	86.16	86.24	86.03	85.71	85.83	87.18	88.49	91.84	0.90	5.57	0.0004
7	Kampot	84.60	86.06	87.46	90.14	87.83	88.69	90.20	90.83	89.58	92.04	93.12	0.79	6.60	0.0001
8	Kandal	86.63	87.91	88.86	90.04	91.01	91.10	92.76	92.62	91.68	93.36	93.58	0.73	8.65	0.0000
9	Kep	87.48	91.74	87.00	83.25	86.39	92.05	91.01	88.84	92.48	91.39	93.14	0.61	2.05	0.0704
10	Koh Kong	76.23	80.72	83.93	81.27	81.61	80.22	85.05	83.58	85.85	83.36	86.31	0.86	3.81	0.0041
11	Kratie	85.01	81.08	87.82	84.65	87.17	85.84	89.92	88.40	87.48	91.53	91.73	0.87	4.08	0.0028
12	Mondul Kiri	74.02	68.40	77.02	73.53	79.11	82.27	82.10	77.27	81.18	84.87	85.95	1.79	4.67	0.0012
13	Otdar Meanchey	-	70.16	75.95	75.49	82.46	83.25	81.78	85.90	83.99	84.22	89.91	2.18	5.72	0.0005
14	Pailin	82.87	75.83	89.04	84.18	79.48	88.11	87.52	87.21	84.73	84.61	85.03	0.55	1.25	0.2428
15	Phnom Penh	92.66	91.02	91.96	93.30	91.76	92.21	93.00	93.41	89.51	90.08	93.59	0.05	-0.36	0.7240
16	Preah Vihear	73.89	74.45	80.25	76.77	79.91	81.12	86.68	84.81	83.92	89.34	93.50	2.10	8.28	0.0000
17	Prey Veng	80.09	81.86	84.55	85.23	86.69	89.51	89.50	88.42	87.82	89.82	91.52	1.15	6.70	0.0001
18	Pursat	80.46	80.84	84.10	85.71	86.21	86.44	86.77	85.91	86.89	88.15	90.46	0.96	6.75	0.0001
19	Ratana Kiri	70.79	66.61	77.27	74.55	73.51	77.31	79.93	75.19	80.28	84.72	84.04	1.88	4.85	0.0009
20	Siemreap	80.93	81.13	86.57	84.46	88.04	84.84	85.49	83.67	86.46	90.55	90.85	0.87	3.54	0.0063
21	Kampong Som	85.41	84.60	86.32	85.45	85.95	87.85	89.67	85.33	84.03	87.92	90.84	0.39	1.82	0.1023
22	Stung Treng	78.08	76.54	84.01	81.40	80.25	87.74	86.65	85.89	85.68	92.35	92.08	1.66	5.89	0.0002
23	Svay Rieng	83.73	85.21	86.49	87.79	88.10	87.20	90.90	90.09	88.05	89.38	93.22	0.78	5.02	0.0007
24	Takeo	85.61	87.20	89.33	91.54	91.62	91.55	93.64	92.92	92.95	94.49	95.42	0.94	7.89	0.0000
	National	84.05	84.32	86.63	87.23	87.83	87.86	89.15	87.93	88.13	89.81	91.57	0.70	7.02	0.0001

Note: AAGR = Average Annual Growth Rate (%); AR = Attendance Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 7: Province/City-wise Growth of Repetition Rate of Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	24.05	19.42	13.32	4.90	5.92	6.94	11.28	9.94	9.88	8.86	7.91	-6.62	-1.62	0.1405
2	Battambang	19.31	19.43	16.95	6.75	8.43	8.77	12.41	11.27	11.28	10.17	10.41	-4.87	-1.65	0.1335
3	Kampong Cham	25.47	24.23	20.66	11.87	14.49	15.40	19.44	15.45	13.59	10.50	8.99	-7.85	-4.13	0.0026
4	Kampong Chhnang	26.87	23.90	13.08	8.44	9.72	10.21	13.02	11.65	11.17	11.01	10.69	-6.37	-2.25	0.0507
5	Kampong Speu	26.91	23.74	12.91	8.13	9.97	9.76	14.76	12.91	11.89	11.51	8.53	-6.65	-2.22	0.0540
6	Kampong Thom	26.13	22.67	18.39	7.17	8.62	9.42	12.11	10.45	11.17	9.61	9.36	-7.83	-2.53	0.0323
7	Kampot	25.60	20.47	10.74	6.92	5.95	5.93	9.83	8.76	8.25	8.62	8.54	-7.66	-2.06	0.0691
8	Kandal	26.43	24.65	12.87	8.94	7.00	7.83	12.74	10.99	11.17	10.43	10.25	-6.66	-1.95	0.0834
9	Kep	25.71	20.08	13.44	8.44	6.64	5.83	9.63	9.49	7.44	9.17	7.41	-9.13	-2.83	0.0198
10	Koh Kong	29.86	23.30	17.16	14.15	11.46	12.50	14.37	13.75	12.13	10.98	11.37	-7.61	-4.33	0.0019
11	Kratie	34.45	31.04	17.85	11.19	10.36	10.13	13.12	13.57	11.73	12.01	12.30	-8.35	-2.79	0.0210
12	Mondul Kiri	41.73	31.75	30.77	22.95	14.98	17.92	17.61	14.92	13.05	14.26	13.46	-10.44	-6.70	0.0001
13	Otdar Meanchey	-	27.09	25.09	14.69	12.22	11.81	15.11	13.84	15.00	13.14	13.75	-5.83	-2.34	0.0477
14	Pailin	23.19	21.32	17.23	4.44	8.01	8.37	14.18	11.86	11.68	11.93	12.90	-3.47	-0.77	0.4602
15	Phnom Penh	18.09	16.44	14.24	7.29	7.56	6.58	7.43	6.18	5.66	5.02	4.06	-12.80	-6.96	0.0001
16	Preah Vihear	34.91	34.20	32.94	18.75	18.00	16.02	18.83	17.29	18.51	16.71	16.58	-7.38	-4.16	0.0024
17	Prey Veng	27.19	25.21	18.92	15.49	15.65	15.05	15.06	12.32	13.05	11.99	13.14	-7.20	-6.23	0.0002
18	Pursat	24.63	22.53	20.03	10.73	8.79	8.05	9.51	9.40	9.67	9.45	9.04	-9.40	-3.80	0.0042
19	Ratana Kiri	34.82	26.23	17.69	14.61	11.64	16.19	16.40	16.86	13.55	12.69	10.93	-7.75	-3.67	0.0051
20	Siemreap	23.53	21.72	20.30	10.69	11.58	12.38	16.07	13.61	13.46	13.20	11.57	-5.28	-2.59	0.0292
21	Kampong Som	23.84	23.45	20.46	10.17	11.28	9.43	11.03	9.31	10.06	8.98	7.89	-10.09	-5.23	0.0005
22	Stung Treng	32.95	28.47	26.82	19.26	18.99	18.10	19.88	16.19	16.11	17.49	17.19	-6.19	-5.16	0.0006
23	Svay Rieng	26.24	23.75	16.11	11.21	12.68	14.82	16.36	13.28	13.29	11.38	11.95	-6.04	-3.19	0.0111
24	Takeo	19.19	17.17	14.15	6.54	6.96	8.14	13.02	11.61	11.90	10.92	9.90	-3.45	-1.08	0.3094
National		24.56	22.32	16.59	9.60	10.18	10.62	13.88	11.95	11.70	10.63	10.05	-6.79	-3.03	0.0143

Note: AAGR = Average Annual Growth Rate (%); RR = Repetition Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 8: Province/City-wise Growth of Repetition Rate of Male Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	24.65	20.38	13.93	5.14	5.61	6.61	10.60	10.95	10.36	9.76	8.79	-6.02	-1.39	0.1975
2	Battambang	19.87	20.04	17.79	7.11	6.76	7.74	11.87	12.57	11.78	10.98	11.5	-4.16	-1.18	0.2667
3	Kampong Cham	26.85	25.59	21.99	12.80	12.04	13.69	17.69	16.78	14.20	11.08	9.9	-7.62	-3.75	0.0045
4	Kampong Chhnang	28.14	25.19	13.91	9.32	8.29	9.42	12.63	13.04	11.82	12.24	12.2	-5.70	-1.77	0.1106
5	Kampong Speu	27.00	24.57	13.36	8.30	8.36	8.45	13.58	14.09	12.25	12.33	9.2	-6.04	-1.77	0.1098
6	Kampong Thom	26.96	23.33	18.99	7.62	6.76	7.96	10.68	11.34	11.55	10.38	10.2	-7.30	-1.98	0.0786
7	Kampot	26.29	21.05	11.32	7.38	5.43	5.88	9.60	9.75	8.64	9.67	9.5	-6.92	-1.72	0.1186
8	Kandal	27.82	26.19	13.97	9.88	6.48	7.78	12.94	12.44	11.97	11.93	11.7	-5.99	-1.59	0.1472
9	Kep	26.16	19.76	15.31	7.97	5.70	5.46	9.77	11.20	8.39	10.27	8.9	-7.51	-1.90	0.0896
10	Koh Kong	29.63	23.08	17.64	13.96	8.62	9.21	11.78	14.22	12.95	11.34	12.3	-6.86	-2.47	0.0355
11	Kratie	35.70	32.30	18.61	12.16	9.11	9.15	11.93	14.79	12.53	13.10	13.6	-7.82	-2.24	0.0516
12	Mondul Kiri	43.26	30.16	30.04	22.82	9.72	12.02	12.25	15.96	14.21	14.35	13.6	-9.92	-3.22	0.0106
13	Otdar Meanchey	-	27.21	25.19	15.00	7.77	8.90	12.57	14.79	15.52	13.84	14.6	-4.36	-1.05	0.3254
14	Pailin	23.22	21.13	16.51	3.77	5.90	7.17	11.99	12.68	12.24	13.58	14.0	-1.86	-0.34	0.7395
15	Phnom Penh	19.41	17.36	15.51	8.05	7.08	6.70	7.69	7.00	5.93	5.77	4.9	-12.24	-6.50	0.0001
16	Preah Vihear	34.83	34.69	32.35	19.15	11.04	11.50	13.65	18.35	19.27	17.72	18.2	-6.47	-1.94	0.0847
17	Prey Veng	27.90	25.39	19.46	16.09	13.23	14.25	13.98	13.56	13.21	12.96	14.6	-6.49	-4.23	0.0022
18	Pursat	25.28	23.59	21.05	11.37	7.03	7.20	8.66	10.47	9.68	9.82	10.0	-9.05	-2.80	0.0205
19	Ratana Kiri	34.69	26.20	17.81	14.69	9.08	10.82	12.99	16.59	14.24	12.06	11.0	-7.79	-2.76	0.0223
20	Siemreap	23.99	22.16	21.36	11.14	9.60	10.60	13.96	14.57	14.46	13.96	12.4	-4.80	-1.87	0.0936
21	Kampong Som	25.01	24.67	20.70	11.41	9.41	8.37	9.77	10.26	10.39	10.00	8.9	-9.53	-3.93	0.0034
22	Stung Treng	33.35	28.86	26.31	19.80	13.94	12.74	15.72	17.21	17.00	18.51	18.4	-5.50	-2.38	0.0414
23	Svay Rieng	26.94	24.55	16.81	11.54	10.59	13.57	15.34	14.27	13.47	12.63	13.1	-5.42	-2.44	0.0376
24	Takeo	19.67	18.01	14.72	7.05	6.35	8.14	13.06	12.98	12.64	12.29	11.2	-2.56	-0.74	0.4797
National		25.44	23.20	17.40	10.20	8.62	9.66	12.93	13.10	12.20	11.54	11.1	-6.25	-2.32	0.0456

Note: AAGR = Average Annual Growth Rate (%); RR = Repetition Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 9: Province/City-wise Growth of Repetition Rate of Female Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	23.33	18.31	12.61	4.61	5.22	6.09	10.32	8.82	8.64	7.85	7.91	-6.97	-1.65	0.1333
2	Battambang	18.67	18.73	16.01	6.33	7.68	7.77	10.92	9.82	10.07	9.26	9.89	-5.44	-1.79	0.1074
3	Kampong Cham	23.85	22.66	19.15	10.82	13.49	13.68	17.65	14.00	12.37	9.85	11.70	-6.52	-3.46	0.0071
4	Kampong Chhnang	25.31	22.36	12.11	7.45	8.41	8.78	11.35	10.16	9.65	9.67	5.70	-9.16	-3.13	0.0122
5	Kampong Speu	26.80	22.75	12.38	7.93	9.00	9.05	13.50	11.62	10.67	10.62	7.95	-7.35	-2.45	0.0366
6	Kampong Thom	25.20	21.94	17.74	6.69	8.01	8.50	10.82	9.54	10.08	8.80	8.16	-8.67	-2.77	0.0219
7	Kampot	24.75	19.76	10.04	6.38	5.25	5.00	8.44	7.64	7.18	7.44	6.88	-9.08	-2.38	0.0410
8	Kandal	24.79	22.85	11.60	7.85	6.07	6.74	10.84	9.39	9.25	8.73	6.42	-8.97	-2.64	0.0267
9	Kep	25.16	20.45	11.32	9.01	5.97	5.13	7.65	7.63	6.23	7.95	6.86	-10.46	-3.17	0.0114
10	Koh Kong	30.15	23.59	16.59	14.38	11.02	11.83	13.75	13.23	11.22	10.56	13.69	-7.25	-3.48	0.0070
11	Kratie	33.03	29.61	17.00	10.12	9.65	9.37	12.24	12.21	10.53	10.82	8.27	-10.15	-3.54	0.0063
12	Mondul Kiri	39.64	33.76	31.75	23.11	14.61	17.68	17.42	13.67	12.23	14.15	14.05	-10.66	-6.15	0.0002
13	Otdar Meanchey	-	26.93	24.97	14.33	11.85	11.54	14.38	12.81	14.33	12.35	10.09	-7.75	-3.24	0.0118
14	Pailin	23.15	21.54	18.08	5.21	7.39	7.74	13.42	10.94	10.80	10.05	14.97	-4.17	-0.95	0.3651
15	Phnom Penh	16.58	15.37	12.81	6.41	6.77	5.51	6.36	5.27	4.83	4.19	6.41	-11.41	-4.73	0.0011
16	Preah Vihear	34.98	33.63	33.63	18.29	17.55	15.32	18.25	16.17	17.32	15.60	6.50	-11.70	-5.05	0.0007
17	Prey Veng	26.33	25.00	18.26	14.77	14.78	13.40	13.40	10.93	11.72	10.89	8.48	-9.53	-9.51	0.0000
18	Pursat	23.82	21.22	18.81	10.01	8.13	7.18	8.42	8.21	8.82	9.04	9.54	-9.20	-3.32	0.0090
19	Ratana Kiri	35.07	26.29	17.48	14.50	10.58	15.96	15.88	17.23	13.72	13.58	15.96	-5.78	-2.27	0.0497
20	Siemreap	22.98	21.18	19.06	10.15	10.99	11.37	14.87	12.57	12.12	12.35	9.15	-6.50	-3.17	0.0114
21	Kampong Som	22.46	22.03	20.18	8.73	10.15	8.18	10.13	8.25	8.43	7.85	9.16	-9.80	-4.06	0.0029
22	Stung Treng	32.46	28.01	27.41	18.62	17.69	17.71	18.98	15.08	14.94	16.37	7.92	-9.82	-6.01	0.0002
23	Svay Rieng	25.35	22.78	15.27	10.83	11.78	13.39	14.60	12.20	11.82	9.97	6.78	-8.87	-4.62	0.0013
24	Takeo	18.60	16.15	13.47	5.96	6.24	6.83	11.30	10.10	10.20	9.37	4.58	-7.33	-2.11	0.0642
	National	23.52	21.28	15.65	8.90	9.35	9.46	12.44	10.68	10.41	9.61	8.43	-7.76	-3.42	0.0076

Note: AAGR = Average Annual Growth Rate (%); RR = Repetition Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 10: Province/City-wise Growth of Drop-Out Rate of Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	14.26	16.66	14.80	13.82	13.30	14.73	13.81	12.72	11.79	12.69	8.51	-4.00	-3.77	0.0044
2	Battambang	15.16	13.43	13.02	13.91	13.47	13.73	11.77	14.00	13.04	14.05	10.53	-1.60	-1.93	0.0853
3	Kampong Cham	15.42	15.24	13.36	12.33	12.41	13.29	11.64	13.63	12.24	12.82	11.82	-1.94	-2.87	0.0185
4	Kampong Chhnang	15.52	14.91	14.42	10.93	8.67	8.94	7.28	9.07	8.86	6.47	6.48	-8.44	-6.95	0.0001
5	Kampong Speu	17.22	15.48	13.10	12.20	11.57	12.65	10.24	15.62	14.45	10.98	7.90	-4.11	-2.40	0.0400
6	Kampong Thom	17.52	16.27	13.21	13.11	13.98	13.50	14.34	13.90	12.94	12.75	8.64	-3.97	-3.44	0.0074
7	Kampot	14.19	11.98	10.97	9.04	11.19	10.80	9.96	9.37	10.50	8.43	6.98	-4.54	-4.30	0.0020
8	Kandal	11.39	10.31	9.67	8.30	8.99	8.34	6.80	7.02	7.96	6.96	6.86	-4.69	-6.33	0.0001
9	Kep	11.00	8.90	12.58	14.60	13.49	8.37	9.63	12.75	8.07	9.21	7.82	-3.15	-1.61	0.1422
10	Koh Kong	21.16	17.70	16.59	16.55	17.34	19.07	14.43	14.75	13.09	17.07	15.33	-2.59	-2.54	0.0319
11	Kratie	14.84	16.36	11.08	13.78	15.88	12.97	10.04	11.97	12.19	8.65	8.70	-5.03	-3.63	0.0055
12	Mondul Kiri	26.48	31.46	19.39	25.64	23.25	15.44	18.35	19.55	17.87	15.31	15.97	-5.67	-4.10	0.0027
13	Otdar Meanchey	-	24.35	20.42	21.12	16.23	15.14	16.06	13.29	14.39	15.45	11.12	-6.71	-5.87	0.0004
14	Pailin	16.62	15.96	11.37	10.24	17.14	9.14	12.09	11.78	14.82	15.38	13.71	-0.35	-0.17	0.8719
15	Phnom Penh	6.67	7.49	6.72	5.59	7.81	7.78	7.15	6.73	10.09	10.35	7.52	3.13	2.08	0.0668
16	Preah Vihear	24.40	22.89	18.39	20.32	17.61	18.16	12.79	14.02	15.20	11.51	8.08	-8.61	-7.08	0.0001
17	Prey Veng	16.73	14.78	12.42	12.29	12.83	9.99	9.30	10.96	11.70	10.63	7.96	-5.08	-4.52	0.0014
18	Pursat	16.70	15.94	14.74	13.72	12.72	13.23	12.89	14.32	13.62	13.17	10.04	-3.10	-3.73	0.0047
19	Ratana Kiri	21.04	29.25	20.66	23.81	21.41	23.58	19.09	20.89	18.03	17.03	15.07	-4.10	-3.69	0.0050
20	Siemreap	16.75	16.99	13.29	13.12	11.68	14.24	13.74	15.62	12.99	10.74	10.56	-3.29	-2.87	0.0183
21	Kampong Som	14.50	13.72	11.68	12.98	12.62	11.22	9.76	13.44	15.66	12.38	8.29	-2.25	-1.38	0.2008
22	Stung Treng	19.51	20.42	14.35	15.87	17.56	12.72	13.05	13.99	13.55	10.19	8.66	-6.62	-5.65	0.0003
23	Svay Rieng	12.40	12.21	11.03	10.14	11.10	11.18	8.74	8.98	10.58	10.30	6.85	-3.77	-3.41	0.0078
24	Takeo	11.78	10.09	9.32	6.92	7.74	7.90	6.04	6.66	6.70	5.31	5.01	-7.15	-7.53	0.0000
National		14.16	13.60	11.99	11.33	11.68	11.69	10.38	11.69	11.56	10.81	8.85	-3.10	-4.39	0.0017

Note: AAGR = Average Annual Growth Rate (%); DR = Drop-Out Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 11: Province/City-wise Growth of Drop-Out Rate of Male Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	12.60	14.97	13.86	12.60	12.55	14.73	13.31	12.13	11.95	13.30	9.05	-2.33	-2.13	0.0618
2	Battambang	14.15	12.38	12.38	13.13	12.99	13.73	11.43	13.70	13.63	15.13	11.11	-0.15	-0.16	0.8777
3	Kampong Cham	14.89	14.04	12.79	11.21	12.21	13.29	11.28	13.59	11.95	13.43	11.92	-1.07	-1.27	0.2353
4	Kampong Chhnang	13.21	13.85	13.88	10.82	8.33	8.94	6.97	9.36	8.67	7.04	7.21	-6.69	-5.19	0.0006
5	Kampong Speu	15.08	12.64	11.06	11.23	10.09	12.65	9.47	15.38	13.63	11.46	7.85	-2.22	-1.19	0.2642
6	Kampong Thom	15.97	14.75	11.92	12.44	14.18	13.50	14.38	13.71	13.06	13.92	9.10	-2.30	-1.84	0.0986
7	Kampot	13.22	10.52	9.74	8.34	10.36	10.80	10.08	9.57	10.58	8.84	7.07	-2.98	-2.40	0.0397
8	Kandal	9.70	8.86	8.48	6.85	9.01	8.34	6.41	6.70	7.63	7.23	7.24	-2.67	-2.62	0.0280
9	Kep	9.76	9.39	12.25	12.80	13.31	8.37	10.20	13.99	8.58	9.75	8.70	-1.42	-0.78	0.4528
10	Koh Kong	19.05	16.47	17.02	14.68	16.45	19.07	13.95	12.73	12.15	17.44	16.76	-1.69	-1.21	0.2586
11	Kratie	14.62	14.24	10.12	12.36	17.74	12.97	9.99	12.20	11.89	8.81	9.08	-3.40	-2.74	0.0210
12	Mondul Kiri	26.87	31.42	16.69	25.02	24.95	15.44	18.80	13.49	17.09	15.45	17.58	-5.66	-2.98	0.0155
13	Otdar Meanchey	-	19.87	17.39	18.30	15.29	15.14	14.15	13.72	12.87	15.15	12.02	-0.05	-5.55	0.0005
14	Pailin	16.15	9.45	11.74	5.32	14.28	9.14	11.65	11.69	14.42	15.38	12.60	2.48	0.80	0.4440
15	Phnom Penh	6.17	6.29	5.55	4.61	7.43	7.78	7.29	6.78	9.72	10.74	8.50	5.77	3.53	0.0064
16	Preah Vihear	22.87	20.60	17.27	17.79	15.35	18.16	12.29	12.60	14.37	12.28	9.53	-6.94	-6.82	0.0001
17	Prey Veng	14.09	12.32	9.84	10.22	12.44	9.99	8.23	10.39	11.28	11.04	7.50	-3.19	-2.21	0.0546
18	Pursat	14.46	13.35	13.69	13.21	11.83	13.23	12.58	14.25	14.08	14.37	10.50	-0.91	-1.00	0.3457
19	Ratana Kiri	16.64	26.88	19.51	22.74	17.80	23.58	18.31	17.89	16.83	18.28	14.38	-2.84	-1.89	0.0910
20	Siemreap	14.71	15.47	13.21	11.04	11.43	14.24	13.04	15.32	12.49	11.89	11.84	-1.37	-1.25	0.2445
21	Kampong Som	14.42	12.31	9.96	11.62	11.36	11.22	9.16	12.16	15.38	12.64	7.48	-1.80	-0.93	0.3752
22	Stung Treng	17.52	17.87	13.03	13.55	15.58	12.72	12.76	13.78	12.81	12.52	9.36	-4.25	-4.11	0.0026
23	Svay Rieng	9.30	10.24	8.90	8.39	10.45	11.18	8.44	8.21	9.34	10.01	6.91	-1.52	-1.21	0.2565
24	Takeo	9.67	8.07	8.12	5.58	7.19	7.90	5.74	6.34	6.39	5.14	5.39	-4.80	-3.98	0.0032
National		12.77	11.92	10.80	10.08	11.25	11.69	9.96	11.35	11.28	11.37	9.23	-1.42	-1.804	0.1047

Note: AAGR = Average Annual Growth Rate (%); DR = Drop-Out Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

Table 12: Province/City-wise Growth of Drop-Out Rate of Female Students in Primary Education during 1997-98 to 2007-08 in Cambodia

Sl. No.	Province/City	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	AAGR	*t Stat*	*P-value*
1	Banteay Meanchey	16.28	18.76	15.93	15.23	14.15	15.23	14.37	13.53	11.60	12.01	7.91	-5.80	-5.17	0.0006
2	Battambang	16.38	14.63	13.68	14.81	14.00	14.19	12.16	14.47	12.38	12.83	9.89	-3.12	-3.95	0.0033
3	Kampong Cham	16.04	16.60	14.07	13.58	12.64	13.49	12.03	13.79	12.55	12.14	11.70	-2.84	-4.77	0.0010
4	Kampong Chhnang	18.33	16.15	14.96	11.07	9.06	8.36	7.63	8.83	9.07	5.85	5.70	-10.28	-7.88	0.0000
5	Kampong Speu	19.77	19.15	15.46	13.31	13.28	12.26	11.08	15.64	15.33	10.45	7.95	-6.22	-3.64	0.0054
6	Kampong Thom	19.23	18.06	14.61	13.84	13.76	13.97	14.29	14.17	12.82	11.51	8.16	-5.59	-5.06	0.0007
7	Kampot	15.40	13.94	12.54	9.86	12.17	11.31	9.80	9.17	10.42	7.96	6.88	-6.33	-6.57	0.0001
8	Kandal	13.37	12.09	11.14	9.96	8.99	8.90	7.24	7.38	8.32	6.64	6.42	-6.80	-9.89	0.0000
9	Kep	12.52	8.26	13.00	16.75	13.61	7.95	8.99	11.16	7.52	8.61	6.86	-5.07	-2.22	0.0540
10	Koh Kong	23.77	19.28	16.07	18.73	18.39	19.78	14.95	16.42	14.15	16.64	13.69	-3.89	-3.68	0.0050
11	Kratie	14.99	18.92	12.18	15.35	12.83	14.16	10.08	11.60	12.52	8.47	8.27	-5.94	-4.40	0.0020
12	Mondul Kiri	25.98	31.60	22.98	26.47	20.89	17.73	17.90	22.73	18.82	15.13	14.05	-6.47	-5.10	0.0006
13	Otdar Meanchey	-	29.84	24.05	24.51	17.54	16.75	18.22	14.10	16.01	15.78	10.09	-8.81	-6.26	0.0002
14	Pailin	17.13	24.17	10.96	15.82	20.52	11.89	12.48	12.79	15.27	15.39	14.97	-2.27	-0.97	0.3579
15	Phnom Penh	7.34	8.98	8.04	6.70	8.24	7.79	7.00	6.59	10.49	9.92	6.41	0.32	0.18	0.8628
16	Preah Vihear	26.11	25.55	19.75	23.23	20.09	18.88	13.32	15.19	16.08	10.66	6.50	-10.38	-6.06	0.0002
17	Prey Veng	19.91	18.14	15.45	14.77	13.31	10.49	10.50	11.58	12.18	10.18	8.48	-7.02	-7.13	0.0001
18	Pursat	19.54	19.16	15.90	14.29	13.79	13.56	13.23	14.09	13.11	11.85	9.54	-5.53	-6.92	0.0001
19	Ratana Kiri	29.21	33.39	22.73	25.45	26.49	22.69	20.07	24.81	19.72	15.28	15.96	-6.16	-5.29	0.0005
20	Siemreap	19.07	18.87	13.43	15.54	11.96	15.16	14.51	16.33	13.54	9.45	9.15	-5.27	-3.51	0.0066
21	Kampong Som	14.59	15.40	13.68	14.55	14.05	12.15	10.33	14.67	15.97	12.08	9.16	-2.81	-1.93	0.0864
22	Stung Treng	21.92	23.46	15.99	18.60	19.75	12.26	13.35	14.11	14.32	7.65	7.92	-9.34	-5.57	0.0003
23	Svay Rieng	16.27	14.79	13.51	12.21	11.90	12.80	9.10	9.91	11.95	10.62	6.78	-5.86	-4.62	0.0013
24	Takeo	14.39	12.80	10.67	8.46	8.38	8.45	6.36	7.08	7.05	5.51	4.58	-9.43	-10.14	0.0000
National		15.95	15.68	13.37	12.77	12.17	12.14	10.85	12.07	11.87	10.19	8.43	-4.89	-6.76	0.0001

Note: AAGR = Average Annual Growth Rate (%); DR = Drop-out Rate (%).

Source: (1) Education Statistics and Indicators, MoEYS, Phnom Penh, The Kingdom of Cambodia (1997 to 2009); and (2) Own Estimate.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 66-86

Resource Potential for Tourism Development – A Study of Capital City of Cambodia

Tan Saroeun[1]

ABSTRACT

Globally tourism is considered as an important economic activity which not only contributes to national income but creates employment opportunities and finally promotes economic growth. Thus, development of tourism is critical to every nation in the world. However, tourism development in any area depends on the type of facilities and services offered to the tourists. The first and foremost step in dealing with the planning and development of tourism is the identification of tourist resources in any given area. In the process of planning and development, it is necessary to identify, enlist and map the various natural and socio-cultural aspects which could attract both international and domestic tourists. Thus, keeping this in mind the present study attempts to assess the growth of tourism in Cambodia and assess resource potential for tourism development of Phnom Penh, i.e., the capital city of the Kingdom of Cambodia as this type of information is necessary for the tourism planners and developers in the country.

The study reveals that Cambodia has been experiencing a high growth of tourism despite its economic backwardness. Along with the growth of international tourist arrivals, there was an increase of the tourism receipts over the study period (2003 -2012). Further, the tourism sector generates employment opportunities and the average annual growth rate of employment was 12.59 per cent. In addition it is found that the capital city of Cambodia, i.e., Phnom Penh is quite rich in both natural and man-made resources. However, commercial, industrial, scientific and educational institutions of special tourist interest are largely scarce as compared to some of the south-east Asian countries. However, due to its several advantages and potentialities, Phnom Penh attracts an increasing number of international visitors from all over the world. To carry out a meaningful planning and policy-making, a systematic and in-depth study with respect to resource potential assessment needs to be undertaken by the researchers.

Key Words: Tourism Development, Growth of Tourism, Resource Potential

[1] Deputy Director of Graduate School, National University of Management (NUM) and Research Scholar, BBU, Cambodia. Mobile: 012 331 091, E-mail: saroeuntan@gmail.com

1. Introduction

Tourism development is increasingly viewed as an important tool in generating foreign exchange earnings, creating employment and income, promoting economic growth and alleviating poverty. The World Tourism Organization statistics indicate that the international tourist arrivals grew by four per cent in 2012 which rose to 1,035 million from 995 million in 2011. Further, among all, Asia and Pacific recorded the strongest growth with a seven per cent increase in arrivals. With a four per cent increase in real terms, the growth in international tourism receipts matched the growth in arrivals. It is observed that despite occasional shocks, international tourist arrivals have shown virtually uninterrupted growth – from 25 million in 1950, to 278 million in 1980, 528 million in 1995 and 1,035 million in 2012 (UNWTO, 2013). As the growth of tourism triggers overall economic growth, therefore, the economic significance of tourism gives the industry a greater respect among the stakeholders, including business community and public officials as well as planners. Thus, tourism supports the entire community through direct and indirect ways; therefore, communities need to understand the relative importance of tourism to their regions and hence, assessing resource potential for tourism development assumes special significance.

Tourism development in any area depends on the type of facilities and services offered to the tourists. The potential for tourism development largely depends on the variety and richness of tourist resources, which include the availability of recreational resources along with the factors like climate, seasons, accessibility, and attitude of the local people, the existing tourist plant facilities and the degree to which they can be further developed within the existing limitations of natural, cultural and financial resources. Equally important factors in this context are proximity to the market, availability of market and many other factors. It is widely recognized that the more unique and varied the resources, the better the prospects for tourism development. Therefore, tourist attractions can be generally categorized as features related to the natural environment, historical and cultural features and special types of features. These features may exist as resources but can only be considered as attractions when they have been properly conserved, developed with visitor facilities and conveniently accessible. Especially, the most vital is interesting and accurate interpretation of these features so that they can be appreciated by tourists. Evaluation of attractions must be related to the existing and potential tourists markets that will use the attractions. Also, attractions must be evaluated relative to attraction features in competing or complementary tourist destinations to ensure that they can be successful in attracting the tourist markets.

The resource potential considerably depends on the way a resource is developed and how it is sold. The ultimate test of what constitutes a tourist resource and the degree of its appeal largely depends on preferences, interests and requirements of the tourists themselves (Ferrario, 1978). Dowling (1993) suggests integrating environment and tourism through environmentally appropriate planning for tourism development and tourism activities. Area development planning models were briefly reviewed and a new regional sustainable development framework called the Environmentally Based Tourism Development Planning Model was described by the author.

The study of tourist demand for a destination often includes an analysis of elements of general nature. Melian-Gonzalez and Garcia-Falcon (2003) in their study explains the main concepts needed to develop a procedure for evaluating the competitive potential of a tourism type in a destination. To assess whether a territory will succeed in a type of tourism, it is necessary to consider the resources

of the destination. It has been thought that the resource-based approach can offer a suitable theoretical framework for investigation of the subject. The study discusses the application of resource-based approach to deep-sea sports fishing tourism in Gran Canaria, Spain**.**

Resources for development of a nature-based tourism industry were identified and assessed in the Central Coast Region of Western Australia by Priskin (2001). The assessment framework used both qualitative and quantitative techniques to establish levels of attraction, accessibility, presence of infrastructure and the level of environmental degradation. Resource assessment was completed using matrices with relevant indicators incorporating weighting techniques and 65 potential nature-based tourism resource sites were identified. It was revealed that the attraction diversity in the region was high, although the resources were associated with poor accessibility, low levels of tourism infrastructure and moderate levels of environmental degradation. The study highlights some of the difficulties associated with establishing objective resource evaluation techniques for nature-based tourism. Ko (2005) develops a procedure for the assessment tourism sustainability by analyzing 12 case studies on the basis of geographical backgrounds. A model development procedure is proposed, and combination of reductionist and holistic approaches to modeling is employed: identification of the systems, dimensions, and indicators; scaling of sustainability; gradations of sustainability; development of tourism sustainability assessment maps; extension of the maps over time; and evaluation.

The first and foremost step in dealing with the planning and development of tourism is the identification of tourist resources in any given area. In the process of planning and development, it is necessary to identify, enlist and map the various natural and socio-cultural aspects which could attract both international and domestic tourists. Though this type of information is necessary for the tourism planners and developers, but the most important for them is to know the degree of attractiveness of a resource or a set of resources. The understanding of the attractiveness of a resource in both qualitative and quantitative terms necessitates an in-depth study of the tourism trends at national and international level, keeping in view the interest, preferences and priorities of the tourists. Therefore, many of the attractiveness of the tourist resources could only be made on the basis of the responses obtained from different tourist interest groups. Further, on the basis of these responses, possibly one can find out the relative attractiveness of a resource in numerical terms. The total attractiveness of a natural or cultural feature not only depends on its own quality but it is determined by a host of other factors which include accessibility, seasonality, environmental features, attitude of hosts, cost and quality of facility and also by the presence of additional resources, attractions or features. Therefore, while identifying the tourism resource potential of any area or region, all the above factors should be kept in mind. The present paper is an attempt to explain the tourism resource potential of the capital city of the Kingdom of Cambodia, i.e., Phnom Penh, in broad qualitative terms.

The paper is structured as follows: in section two the study objectives are presented. In section three, while the growth of tourism is given, the section four assesses resource potential of Phnom Penh. Finally, in the last section the conclusion of the study is presented.

2. Objectives of the Study

The main objectives of the study are to assess the growth of tourism in Cambodia in terms of international tourist arrivals, tourism receipts and employment generation and assess resource

potential for tourism development of Phnom Penh, i.e., the capital city of the Kingdom of Cambodia.

3. Data Base and Methodology

The Kingdom of Cambodia is one of the South-east Asian countries bordering with Thailand, Vietnam, Lao PDR and the Gulf of Thailand. Presently, the country has 24 provinces/ cities including the capital city of Phnom Penh. This study attempts to assess the growth of tourism in Cambodia in terms of international tourist arrivals, tourism receipts and employment generation by calculating the average annual growth. In addition, the present study is directed to assess the resource potential for tourism development of the capital city of Phnom Penh. For this purpose, secondary data are collected from several published and unpublished sources. Particularly, data are gathered from the Statistical Yearbook of Cambodia (2011) published by the National Institute of Statistics, Ministry of Planning, relevant publications of the Ministry of Tourism of Royal Government of Cambodia. Besides, data from relevant publications of World Tourism Organization are collected to carry out the present study. Qualitative considerations are made to assess the resource potential for tourism development of Phnom Penh.

4. Analysis of Results

4.1 Growth of Tourism

The international tourist arrivals grew by four per cent in 2012 which rose to 1,035 million from 995 million in 2011. Asia and Pacific recorded the fastest growth across all regions with a seven per cent increase in international tourist arrivals. For the South-east Asia, an additional 7.3 million international tourists visited in 2012 as compared to 2011 and the growth was recorded at 9.4 per cent. However, in 2012 a significant increase in the international tourist arrival was found in Cambodia, which rose to 3.6 million, i.e., 24.4 per cent increase as compared to the previous year. In 2012, while Asia and Pacific region's market share was 22.6 per cent of the world, it was 8.2 per cent for South-east Asia and less than one per cent (0.4 per cent) in case of Cambodia (Table 1).

Table 1: Growth of International Tourist Arrivals

Region/ Country	Year						% of Change 2012/2011
	1995	2000	2005	2010	2011	2012	
World	529 (100.0)	677 (100.0)	807 (100.0)	949 (100.0)	995 (100.0)	1,035 (100.0)	4.0
Asia & Pacific	82 (15.5)	110.1 (16.3)	153.6 (19.03)	205.1 (21.6)	218.2 (21.9)	233.6 (22.6)	7.0
South- East Asia	28.4 (5.4)	36.1 (5.3)	48.5 (6.01)	70.0 (7.4)	77.3 (7.8)	84.6 (8.2)	9.4
Cambodia	219,680 (0.04)	466,365 (0.07)	1,421,615 (0.2)	2,508,289 (0.3)	2,881,862 (0.3)	3,584,307 (0.4)	24.4

Note: i. The figures of international tourist arrivals are in millions, except of Cambodia.
ii. The figures in the parentheses represent percentage to total.

Source: UNWTO Tourism Highlights, 2013, World Tourism Organization (UNWTO), Statistical Yearbook of Cambodia (2011), Ministry of Planning; and Ministry of Tourism, Royal Government of Cambodia.

In 2012, international tourism receipts rose to USD 1,075 billion worldwide. It is observed that the receipts grew by four per cent in real terms mirrored by the growth in international tourist arrivals. The share of Asia and Pacific to total receipts was 30.1 per cent, whereas, it was 8.5 per cent for South-east Asia. As shown in Table 2, though Cambodia's share of tourism receipts to total receipts was 0.2 per cent in 2012, but there has been a continuous increase in tourism receipts over the last three years.

Table 2: International Tourism Receipts

Region/ Country	Year		Market share % 2012
	2011	2012	
World	1,042	1,075	100.0
Asia & Pacific	298.6	323.9	30.1
South- East Asia	84.4	91.7	8.5
Cambodia	1,912	2,100	0.2

Note: The figures of international tourism receipts are in billions USD except of Cambodia which is in million USD.

Source: UNWTO Tourism Highlights, 2013, World Tourism Organization (UNWTO); and Ministry of Tourism, Royal Government of Cambodia.

Cambodia has been experiencing a high growth of tourism despite its economic backwardness. The number of international tourist arrivals crossed 3.5 million in 2012 from around 701 thousand in 2003. Along with the growth of international tourist arrivals, there was an increase of the tourism receipts over the same period. Considering the period of 10 years, i.e., from 2003 to 2012, it is observed that while the average annual growth rate of international tourist arrival was 16.59 per cent, it was 19.73 per cent for tourism receipts. Similarly, it is revealed that the tourism sector generates employment opportunities in the country and in 2012 it rose to 380 thousand from 100 thousand in 2003. However, the average annual growth rate of employment (12.59 per cent) was found to be less than the growth rates of international tourist arrivals and tourism receipts over the same period (Table 3).

Table 3: Growth of Tourism in Cambodia

Year	International tourist arrivals	Tourism receipts (in million USD)	Tourism employment
2003	701,014	347	100,000
2004	1,055,202	578	180,000
2005	1,421,615	832	200,000
2006	1,700,041	1,049	250,000
2007	2,015,128	1,403	270,000
2008	2,125,465	1,595	290,000
2009	2,161,577	1,561	300,000
2010	2,508,289	1,786	315,000
2011	2,881,862	1,912	350,000
2012	3,584,307	2,100	380,000
Average annual growth rate	**16.59**	**19.73**	**12.59**

Source: Statistical Yearbook of Cambodia (2011), Ministry of Planning; and Ministry of Tourism, Royal Government of Cambodia.

4.2 Resource Potential Assessment for Tourism Development

Though tourist resource is a complex term and difficult to define, however, any natural and cultural objects with an appeal to attract people constitute a tourist resource(s). Considering this, anything ranging from a mountain peak, river, lake, waterfall, forest, wildlife, bird, historical monument, an object of art, fair or festival, a beach, even a person, etc., can be a tourist resource. To assess the resource potential, several studies made in this direction focused on a specific area, resource, resource clusters, tourist activities or tourist market. The attempt made by Ferrario (1978) on tourist resource analysis with reference to South Africa found to be some extent suitable model in this regard. Gearing *et al.* (1974), Var Turgut *et al.* (1977) and others by selecting a set of 17 more or less independent variables, organized them into five sub-groups and assigned numerical values to each of them on the basis of the preferences given by the tourists. The numerical value thus assigned was taken as an index of the tourist attractiveness. The approach developed by Mill and Morrison (1985) was used in the tourism development program for Colling Wood- Midlarge-Orillia zone in Ontario (Canada). It classified the various resource components having local, regional, provincial, national and international appeal with respect to the existing, desired and potential markets. Based on the responses of the domestic and international tourists, the potentiality of an individual resource was assessed. Prospective use pattern in each individual case was determined on

the basis of past, present and future tourism trends. Thus the information collected was finally used to evaluate the overall tourism potential of the area. The common steps in any of the above approaches are: identifying and mapping of available tourist resources in a given area; assessing the degree of tourist preferences and tourist interest for each of these features, and determining the resource value in qualitative and quantitative terms.

Criteria selected by Gearing *et al.* (1974) and Var *et al.* (1977) for British Columbia, Ferrario (1978) for South Africa and Mill and Morrison (1985) for the Ontario region need a re-tailoring of the method to suit the study area, i.e., Phnom Penh from the point of view of tourist resource potential. Thus, considering the region and study area, the criteria along with the component considerations are given as below:

Table 4: Criteria for Resource Potential Assessment of Phnom Penh

Resource	Criteria	Considerations
1. Natural Resources	1.1. Scenic Beauty	Landscape: mountain, forest, outstanding sunrise and sunset scenes, other landscape aspects.
	1.2. Geological Features	Special geological characteristics
	1.3. Water Bodies	Rivers, streams, riverfronts, water- falls, lakes and reservoirs, etc.
	1.4. Climate	Temperature, amount of sunshine precipitation, humidity, seasonality, etc.
	1.5. Flora	Forest, forest types, unique vegetation patterns, plants of special significance.
	1.6. Fauna	Uniqueness and diversity of wild life-mammals, birds, reptiles, fishes and butterflies, etc.
2. Man-made Resources	2.1. Religious Resources	i. Religious centers of local, regional and national significances. ii. Religious performances, observances and rituals.
	2.2. Socio-cultural Features	
	2.2.1. Cultural landscape	i. Settlement pattern.
	2.2.2. Distintive cultural aspects	i. Local life style, dresses, jewelling, etc. ii. Fole traditions, fold loves and legends iii. Local cuisines

	2.2.3. Local Art/craft	i. Art and architecture, sculpture, and paintings. ii. Folk dances/music and musical instruments. iii. Local craftsmanship
	2.2.4. Fair and Festivals	i. Fairs-religious, religious cum cultural, specific local fairs, commercial/trade/ craft fairs. ii. Festivals-popular festivals and celebration.
	2.2.5. Historical/ Archaeological heritage	i. Monumental heritage-forts, palaces, pagodas and temples of historical and artistic value ii. Ancient ruins iii. Museums iv. Sites of important historical events, such as killing field etc. v. Historical parks/gardens.
	2.3. Commercial, Industrial, Scientific and Educational institutions of special tourist interest	i. Industrial focus ii. Important centers of trade and commerce iii. Educational institutions iv. Other centers of tourist attractions.
	2.4. Distinctive local occupational patterns	i. Agricultural implements and practices ii. Fishery, poultry, piggery, etc.
3. Sport/ Recreation/ Entertainment Facilities	3.1. Sport Facilities	i. Facilities/opportunities for adventure and pleasure seekers ii. Water sport iii. Golf courses iv. Trekking, climbing, cycling and driving, etc.

	3.2. Other recreation and entertainment facilities	i. Hill resorts ii. City paves, water parks, zoo, gardens, picnic sports, etc. iii. Open air theatres and light and sound program iv. Labor sports, entertainment facilities v. Other pleasure pursuits, live horse riding, elephant riding, etc.
4. Shopping	4.1. Shopping facilities	i. Souvenir shop ii. Other shopping centers of special tourist interest.
5. Other tourist plant facilities	5.1. Infrastructure	i. Highways, waterways, airways, etc. ii. Communication and public transport facilities iii. Electricity and other energy source iv. Health and hygiene v. Banks, motels, restaurants, etc.
	5.2. Food and lodging	i. Hotel, motels, restaurants, etc.
	5.3. Travel agency/tour operators	i. Travel agencies/tour operators/ other travel facilities and services, etc.

Natural Resources: From the historical, religious and cultural points, Phnom Penh has occupied a unique place in Cambodia as well as in the South-east Asia. As a country, Cambodia has a considerable advantage and an unpolluted natural setting. As is well known, Angkor temple complex is one of the most significant heritage sites in the world. Phnom Penh (Study Area), with its French-influenced atmosphere, has its own charm. Major tourist attractions in the capital city of Phnom Penh are the Royal Palace, the national museum, the view of the Mekong River, and the surrounding areas with its mountains, forests, lakes, and streams. Thus, to cope with the challenge of identifying the resource potential of the study area in a broader perspective, the study has made a modest attempt to analyze the tourism potential on qualitative considerations.

Passed through several stages, finally with independence from the French in 1953, Phnom Penh became a true seat of government, and an educated middle class began to gain prominence. The progresses on every field at that time caused international communities to title Phnom Penh City as Pearl of Asia. In the mid-1960s, a national

sports venue, the Olympic Stadium, was built and visited by world celebrities. However, the period of optimism was not destined to last. Phnom Penh started to feel the effects of the Vietnam War in the late 1960s. Moreover the city was a ghost town when the Khmer Rouge took power for three years. In spite of internal wars during 1970s and 1980s, the city of today is quickly repaired the destruction caused to it over 25 years ago, with some success. With tourism not far from its sights, the municipal government has set out elaborate plan to make beautiful city. The private businesses open everywhere and a middle class has emerged. Today the city is facing the new century with renewed optimism.

The Great Capital Area consisting of Phnom Penh Municipality and Kandal province is located on the delta of four large rivers. At Phnom Penh, the Mekong River bursts into four branches: the Upper Mekong, the Lower Mekong, Tonle Bassac, and Tonle Sap. During the dry season, the water reverses direction and flows back to Mekong and flows to the sea. At the sunset, visitors can cruise from Tonlesap, in front of Royal Palace, along the river to watch the lives of people in the river and around the river, especially at the four faces of river. The River Parkway on the Phnom Penh side of the Tonle Sap River is a picturesque, pleasant stretch of. It is a great place for a stroll or jog, with interesting things to view on and next to the river. Fish men and women are out on the river all day long, working their nets and hand-rowing their small wooden fishing boats, trying to catch fish for the family and to sell at the market. The river scene is very placid and underdeveloped and gives this part of Phnom Penh a small-town feel. But the scene changes each day as the late afternoon merges with the early evening hour and the area becomes the scene of the "Phnom Penh Promenade."

For Royal appearances; an open-air pavilion is often used for entertaining and viewing of the King's movies; and the King's private residence, which houses a collection of Cambodian artwork from artists around the world, and his office, where he actively pursues Royal duties. The architecturally incongruous Napoleon III pavilion shipped and reassembled in Cambodia was a gift of the French Empress Eugenie in the early 20th century. Outside the southeast wall of the palace is the house of the white elephant traditionally used for special regal occasions including Royal births, wedding and deaths.

Every year, tourists from all over the world come to Phnom Penh to marvel at the beautiful Royal Palace, the world's finest Buddhist architecture including the famous Silver Pagoda and lots more. From November to January it is the coolest and most pleasant weather. Phnom Penh has a tropical climate with predominantly hot weather round the year. Due to its tropical climate, Phnom Penh experiences bright sunshine all through the year and has high average temperature. The hottest month is April, when temperature can soar to over 40 degree Celsius. The average temperature ranges from 27 to 40 degrees Celsius. The wet monsoon season runs from June through October, with southwesterly winds bringing strong winds, high humidity and very heavy rains. Seventy five to eighty per cent of the annual rainfall can be witnessed during this period.

Cambodia still boasts extensive wooded areas, with valuable trees like teak, rosewood, ebony, and in the central zone-oil palm and rubber. Evergreens, sappan wood, and casuarinas are found throughout the country, while mangrove swamps occupy some deltas and coastlines of the south. Cambodia is filled with flowering shrubs, trees, and plants among the most common in ponds but flowers above the water surface. This feature has attracted poets and the abundant lotus is a religious symbol to many. Another is the orchid, which grows

both in jungles and special nurseries, particularly around Phnom Penh.

There is also the jasmine, a favorite offering at temples, and the frangipani, the bougainvillea, and the hibiscus. In the rain soaked peninsular jungles, one can find carnivorous plants, like the insect-eating pitcher plant, and some that rely on other trees or plants to live, like the epiphytes, rattan, and other vines and creepers. A complete list of native vegetable includes plants and trees that bear bananas, durians, oranges, mangoes, papayas, and jackfruits, among others.

The central lowland consists of rice paddies, fields of dry crops such as corn and tobacco, tracts of reeds and tall grass, and thinly wooded areas. The transitional plains are mostly covered with savanna grasses, which grow to a height of 1.5 meter. In the southwest, virgin rainforests grow to heights of 50 meter or more on the rainy seaward slopes of the mountains. Vegetation in the coastal strip includes both northern mountains having broadleaf evergreen forests with trees soaring 30 meter above the thick undergrowth of vines, bamboos, palms and assorted woody and herbaceous ground plants. The Eastern Highlands are covered with grassland and deciduous forests. Forested upland areas support many varieties of orchid.

Relatively large extent and diversity of forest cover maintains a diversity and abundance of wildlife in Cambodia. It is believed that Cambodia features approximately 130 mammal species and an unknown number of reptiles, amphibians, and other animal groups. The large mammals living in Cambodia include the bears, elephants, rhinoceroses, leopards, tigers, lion, gaur, deer of various sizes, tapir, boar, covet, wildcat, porcupine, monkey, flying squirrel, and wild elephant, wild water buffalo, pleated gibbon, otter civet and ko prey (The Cambodia's national animal). Additional aquatic mammals occurring in Cambodia include the Irrawaddy dolphin, the Chinese white dolphin and the black finless porpoise. Among the country's most common birds are cormorants, cranes, egrets, grouse, herons, pelicans, pheasants and wild ducks. Eagles and parakeets are less common, while songbirds and blue-tailed gibbons are rare. Nevertheless, the jungles have a large variety of insects, including armored beetle and moths with wingspans of 12 inches or more. There are also a great variety of butterflies. Reptiles and amphibians thrive in Cambodia's tropical climate.

Man-made Resources: Wat Phnom lies at the heart of the capital. A wealthy widow called Yeay Penh (Grandmother Penh) was walking by the Mekong River one day when she spied a Koki tree log floating near the bank. Koki timber is famous for its ability to survive in water for hundreds of years. She found some locals to help her pull it to shore, and inside she found five statues of the Buddha. In AD 1372, she built a hill, or Phnom Penh, and placed a shrine on top to house the precious artifacts. The current temple was last rebuilt in 1926 and received a facelift in 1998. Today, Wat Phnom remains the highest artificial hill in Phnom Penh and the center of many forms of leisure activity. This important temple is located on the hill north of Phnom Penh's center that gives the city its name, not far from one end of Sisowath Quay.

To climb up the hill via the grand eastern stair-case takes visitors on a path guarded by stone Nagas, lions and through tree-lined lushness to the temple, which glitters with golden decorations and is always piled high with offerings. On weekends especially, locals flock here to pray for good luck and prosperity returning when their wish is granted to build offerings of thanks such as bananas or fragrant rings of orange blossoms.

A plump smiling status of Yeay Penh also graces the hill. She is also said to have the power to grant

requests, especially for women. The large stupa on the west-side of the hill, meanwhile, is believed to contain ashes of King Ponhea Yat. Sambo, the Elephant, a Phnom Penh icon, chews thoughtfully on a stalk of sugar cane, waiting for the next tourist to pay to climb up on her back and see the city through a mahoot's eyes.

Situated in the Corner Sothearos, the **Ounalom Pagoda** in Phnom Penh is one of the most significant pagodas featuring Cambodian Buddhism. This pagoda comprises of the country's religious establishment. It is here where the top monk of the nation resides. It is another of Phnom Penh's five original monasteries which was built in the year 1422 during the reign of Ponhea Yat. In the earlier years, this pagoda served as the library of the Buddhist Institute. On the riverfront about 250 meter north of the National Museum, facing the Tonle Sap River near the Royal Palace, this pagoda serves as the headquarters for one of Cambodia's most revered Buddhist patriarchs. Today this Pagoda is one of the major tourist attractions in Phnom Penh. The most important and eminent attribute related to this Wat or pagoda is a hair from Buddha's eyebrow which is referred to as 'ounalom'. At present, it has been conserved carefully in a building situated behind the main Wat of the Ounalom Pagoda. The Royal Palace is also quite close to the Wat. The area features a pleasant ambience where tourists can take a stroll. With respect to the numerous pagodas, parks, monuments and museums, the city of Phnom Penh in Cambodia is an ideal destination for the vacationers.

Among the many prominent pagodas in Cambodia, one of the most notable is the **Wat Botum**. It is ideally positioned towards the south of the Royal Palace. Also referred to as the Temple of the Lotus Blossoms, this exceptional pagoda is a popular tourist attraction in Cambodia. The original land that today houses the temple was surrounded by a pond filled with lotus flowers. This 15th century Wat started to be known by its present name only after 1865. Over the years, this historically acclaimed site has been through a series of extensive renovations and was recently renovated in 1937.

The complex features beautifully decked Stupas and many other statues and structures. Once favored immensely by the Royal family, some of the Stupas at Wat Botum even contain ashes of certain members from the Royal family. The statues of green and yellow that can be seen at the entrance of Wat Botum are Naga statues. It is of a legendary snake that resides in the subterranean kingdom which is believed among locals that it can also change itself into a human. Wat Botum is known to be the heart of the Thammayut sect and is also home to one of Cambodia's two supreme patriarchs.

Wat Langka is reputedly one of Phnom Penh's five original Wats. First established as a sanctuary for the Holy Writings and a meeting place for Cambodian and Sri Lankan monks, the Wat was named in honor of these meetings. It is located at the south-west of the Independent Monument. Wat Langka was apparently used as a storehouse by the Khmer Rouge, so it escaped total destruction. Now fully renovated, this temple has an important place in Cambodian Buddhism as it was originally designated the principal library for religious writings. The name Langka originates from the fact that the monastery originally housed an order from Sri Lanka.

Located about 300 meters south of the Independent Monument, there are **Prayuvong** Buddha factories to replace the countless Buddha's and ritual objects smashed by the Khmer Rouge. On the grounds of Wat Prayuvong, a whole neighborhood of private workshop making cement Buddhas, Naga and small stupas has grown up. It is a hard work to

paint colors on the graceless cement figures, and Cambodian people try their best to restore Buddhism to a place of honor in their culture.

About 18 kilometers from Phnom Penh, turn off National Route 5 (the road to Oudong) at Phsar Prek Phnev, the market, and continue several kilometers down the unpaved road through fields of lotus blossoms and rice paddies, **Phnom Preseth** is plainly visible from the road. On one mountain stands an ancient temple and on the other is a modern reconstruction of a temple which was destroyed by the Khmer Rouge. The view from the back of the temple is great. Inside the Vihara, vibrant paintings, particularly fine examples of their genre, depict various scenes from Buddhist legend. The temples on the plain below were reportedly built by an American-Khmer and a local monk. Angkor to scale is a sight well worth seeing. City folk flock her on week-ends, especially to worship.

Oudong is on a large hill situated 40 kilometer north of Phnom Penh off by road number five. It was largely destroyed during the war. However, little remains of the canals and terraces created by Khmers who want to pay homage to the remains of former Kings. It is a pleasant half-day trip into the scenic countryside outside Phnom Penh. Oudong actually appears as two humpbacked hills. The smaller is trooped by shrines (Viharas) and the remains of Ta San Mosque, built by a Cham Muslim on ground granted to him for the purpose by one of the ancient kings. The main hill is shaped like Naga. On the hill where the temples contained are the remained corpses of some monarchy including King Ang Duang. The large new structure of the old of mountain ridge is believed to be a new resting place of a Buddha relic formerly housed in a structure at the front of the Phnom Penh railway station.

Tonle Bati is located 35 kilometer south of Phnom Penh where **Ta Prohm** temple (13th century) dedicated to Brahmanism and Buddhism was constructed by Jayavarman VII on the site of a sixth-century shrine. The main entrance is from the east along a literate causeway, edged by flowers and shrubs. Piled up to the side there are broken chunks of masonry some elaborately carved with scenes from the Churning of the Ocean of Milk. At the center of the inner enclosure are the temple's five sanctuaries. Its antechambers built in a cruciform shape with shrines to the cardinal directions. Above the entrance, a carved stone image of a reclining Buddha has been colorful coated in paint. The main sanctuary, of sandstone, contains an upright Buddha image, while the antechambers house damaged stone Linga. Another image of Buddha, over the north arm of the cruciform has been superimposed with a carving of a six-armed Vishnu, a change probably made when the Angkorian kingdom reverted to Hinduism after the death of Jayavarman VII.

Built in 1866 by King Norodom the **Royal Palace** contains various buildings of interest, including the Khmer-style Throne Hall, now used for special ceremonial occasions. South of the Throne Hall are the Royal Treasury and the villa of Napoleon III, built in Egypt in 1866, for the opening of the Suez Canal, and was after presented to the Cambodian king as a gift. The Chan Chhaya once served as the Royal Residence is no longer open to the public. But the beautifully manicured gardens and topiary of the palace grounds can be glimpsed from the Silver Pagoda, which adjoins the palace and is certainly one of the great triumphs of Khmer aesthetics.

The famous Silver Pagoda, originally constructed of wood in 1866, was expanded in 1962 by King Sihanouk who had the floor inlaid with 5,329 solid silver titles, each weighing 1.1 kilos, hence its name. That alone makes this holy place a priceless dedication to religious art. The structure is also

known as Wat PreahKeo Morakot. The most revered image is the Emerald Buddha, made of Baccarate crystal and dating back to the 17th century. Behind it, another Buddha statue was cast in 1906 by utilizing 90 kilogram of gold, and decorated with 9,584 diamonds. To the right sits a silver Buddha and, to its left, sits an 80 Kilogram bronze Buddha. Both are also magnificent examples of fine religious design and workmanship. One more important exhibit is a Buddha relic, its tiny silver and gold stupa protected by a case. Cabinets along the perimeter contain gifts presented to royalty and dignitaries. Along the inside of recently restored 600 meter external wall is a colorful mural depicting scenes from the Ream Ker, the Khmer version of the Ramayana.

Located just north of the Royal Palace, the **National Museum** is a truly fabulous museum set inside a beautiful traditional red pavilion built in 1917-18 which is exclusively dedicated to Khmer arts. The National Museum has recently been restored and represents the finest of Phnom Penh's architecture. On display inside are more than 5,000 works of art, ranging from the 7th to the 13th century. Treasures include sculptures, 19th century dance costumes, Royal barges and palanquins and many artifacts from the pre-Angkor as well as Angkor period, sculpture of Yama, from the Terrace of the Leper King at Angkor Thom, and the massive Reclining Vishnu from the West Mebon. One of the most prestigious is a statue of the great God-King Jayavarman VII who ruled Angkor from 1181 to 1201 and was responsible for many of the architectural wonders. Opened to the public in 1918, the building was designed in traditional Khmer style by the French archeologist and scholar, George Groslier, and comprised of four linked galleries, which form a rectangle around a leafy courtyard. Thus, worth visiting for its beauty alone, the National Museum also houses the world's foremost collection of ancient Khmer archeological, religious and artistic artifacts.

To celebrate the independence of Cambodia from France rule in 1953, the **Independent Monument** was inaugurated in 1958. It now also serves as a monument to Cambodia's war dead. The Naga-motif is one which can be seen in historic, cultural and modern-day business context, as a symbol of the country.

Prior to 1975, **Tuol Sleng** was a high school but under the Khmer Rouge it was used as a torture facility suffering for some 20,000 victims. The building now serves as a museum and a memorial. Like the Nazis, the Khmer Rouge was meticulous in keeping records of its barbarism. Each prisoner who passed through S-21 was photographed, sometimes before and after being tortured. The museum displays photographs of men, women and children covering the walls from floor to ceiling; virtually all the people pictured were later killed. Altogether, a visit to Tual Sleng is a profoundly depressing experience.

Just 12 kilometer South-west of Phnom Penh is **Cheung Ek Genocidal Center** where prisoners from Tuol Sleng were brought for extermination. The site is easily accessible. It is the place where the genocidal Khmer Rouge disposed of its enemies: men, women and children who had allegedly betrayed the state. Early on, the regime's victims were shot, subsequently, to save on valuable bullets; prisoners were bludgeoned or stabbed to death.

The **Chaktomuk Theatre** designed by renowned architect Vann Molyvann was originally opened in 1961 as La Salle de Conference Chaktomuk. In 1991, it was fully renovated and was meant to be a restaurant. It was brought back in its original state as a theatre in 1994 after the devastating fire at the National Theatre. The auditorium has a total of 592 seats.

Khmer culture has old and deep roots, and traditional Cambodia society is established in customs and attitudes that are centuries old. Cambodian believes they are born into a place in society that is determined by the Karma (the effects of thought and deed) of their past lives. However, for their acts of thveu Bonn-making merit-they can advance their social position. Despite this, there are always be people they deal with who are of higher or lower status. Thus, for most Cambodian, there are always superiors to respect, meaning people who are given special treatment because of their higher status.

In the reign of Jayavarman VII there were over three thousand **Apsara** dancers at court and the dances were performed exclusively for the king. It was not until 1995, a full sixteen years after the fall of the Khmer Rouge, that Cambodians once again witnessed a public performance of Apsara dance, at Angkor Wat. The visit to Cambodia remains incomplete if one fails at least to catch sight of women performing the ancient art of Apsara dance, as depicted on the walls of Angkor's temples.

Musicologist has identified six types of **musical** ensemble, each used in different settings. The most traditional of these is the areak Ka. This ensemble performs music at wedding. The instruments used include a Tro Khmer (three stringed bowed instruments) and Skor Areak (drums), among others. The instrument generally includes at least one stringed instrument, a Roneat (xylophone) and sets of drums and cymbals. Influenced by US music and later exported back to Cambodia, it has been enormously popular.

Cambodia is famous for its **sculpture**. The earliest surviving Cambodian Sculpture dates from the 6th century. A large eight-armed Vishnu from this period is displayed at the National Museum in Phnom Penh. Also on display at the National Museum is a statue of Harihara. This period also features much Buddhist-inspired sculpture, mainly in the form of Bodhisattva. The National Museum has a splendid piece from this period: a sandstone statue of Shiva holding Uma, his wife, on his knee.

Khmer **architecture** reached its period of greatest magnificence during the Angkorian era (the 9th to 14th centuries). Some of the finest examples of architecture from this period are Angkor Wat, the structures of Angkor Thom and Preah Vihear temple.

Today, as in centuries past, most Cambodians in rural areas live in housing structure provide shelter for animals, shade from the sun and an outside living area during the rainy season. It also keeps out unwanted animals. The rural houses have straw roofs, and the walls and floors are made from woven palm or bamboo.

KohDach is the name of island, about 30 kilometer on the Mekong River and about 15 kilometer north-east of Phnom Penh. It is the traditional silk weaving village of handicraft production, dying and weaving silk on old looms, pottery, handicraft work, wood carving, painting and jewelry's cutting. Primarily an agricultural community, the island is home to a number of stilt-house villages. The island is noted for its weaving, and in the dry season looms clack away beneath the houses producing formal Sampots. As the river level falls after the rainy season, a wide sandy beach is exposed at the northern end of the island, where food stalls and picnic huts serve tasty food.

The **Khmer festivals** and holidays are celebrated according to the lunar calendar. For this reason some of the dates are approximated. Some of the festivals are as follows:

Khmer New Year's festival (April, 13-15) is observed at the end of the harvest season. Khmers clean and decorate their houses with altars for

offerings and play traditional games.

Bonn Chroat Preah Nonkoal (May, 19) is the Royal Ploughing Ceremony which inaugurates the planting season and involves symbolic ploughing and sowing of seed. Bonn Kan Ban and Pchoum Ben (three days during September/ October) is the festival held for commemoration of the spirits of the dead. Cambodians visit Watts and cemeteries to pray for departed relatives and ancestors. Throughout Cambodia, Bonn Kan Ben is celebrated for two weeks. It is also called the Pchum Ben or Festival for the Dead which falls on the 15th day the full moon. Buddhist monks chant prayers and accept ceremonial offerings of food from the relatives of the dead. People dedicate food and good wishes to their deceased relatives, whose spirits, according to the customs practiced by most Cambodians, come back once a year. Bonn Om Touk (November, 23) is the water festival commemorates an era when naval forces fought for control of a land dominated by water, dating as far back as the Funan era (3rd to 6th century). King Jayavarman VII hailed his armada's victory over a Cham fleet in 1181, a battle vividly depicted on wall carvings at the Banteay Chhmar temple in Banteay Meanchey province, and Bayon Temple in Siem Reap. The sight of 300 boats gathering at golden pavilion on the Tonle Sap is the festival's climax.

Cambodian has no food bias and always willing to try any sort of meat, wild or domestic, and most seafood. **Khmer food** spices include chili, pepper, coriander leaf and root, lemon grass, basil, ginger, mint, cardamom, and screw pine. Sour soups are popular and meat and fish are always served with sauces like shrimp paste, tamarind, or honey with chili. Fish sauce is the basic substitute for salt across the country. Spicy salads are a local specialty. They are made from raw prawns, meat, green papaya, field crab, or chopped raw meat, with chili and other spices. Like the various noodle dishes, they are often sold at street side stalls for those who want a light meal. The hot, soup that is part of any full-course Cambodian meal was cooked in a day pot. Rice is served in small bowls to each person, who then use spoons or chopsticks to select pieces of food from the other bowls. Each dinner also has a separate soup bowl that he or she fills from the common pot. Till today, the ancient style of eating has not changed much.

Sport/ Recreation/ Entertainment Facilities: During the king Sihanouk regime, **sports** flourished in Cambodia and the teams were very competitive with the rest of Asia. The Olympic Stadium includes a sports arena which doubles the facilities for swimming, boxing, gymnastics, and volleyball tennis courts and other sports. There are lots of in-room sports activities like bowling, billiards, bridge, etc. Besides, there are a lot of **recreation** activities in Phnom Penh. Among the notable bars and nightclubs, Foreign Correspondents Club, Manhattan's Nightclub, Martini's Disco are that enjoy supreme popularity.

The **Cambodia Golf and Country Club**, the country's first golf club, lies 33 kilometer west of Phnom Penh and 20 kilometer west of the airport along Road No. 4. Membership includes foreign expatriate and frequent business visitors as well as Cambodian nationals. It lies on a beautiful landscaped 120 acre tract that includes swimming pools, tennis courts, convention facilities and villas. The 5-acre course itself derives some of its distinctive flavor from the wide variety of native fruit trees and evergreens. The relaxed, scenic surroundings and the activity itself attract everyone to settle everything from new mergers to old conflicts.

Shopping: Phnom Penh has many local standard **markets** and most things can be found in those markets. It is worth to walk around the markets, especially the main markets as Phsar Thmei.

Designed by a French architect, the bustling art-deco style Central Market opened in 1937 and is a famous city land market offering a wide range of goods including souvenirs, jewelry, silks, electronic goods, stationery, clothes, etc. The next is the Tuol Tum Pong Market (Russian Market) in the south of the city. The choice of wares is smaller but the souvenir and curios section is broader and more interesting. Olympic Market is a three-storey covered market near the Olympic Stadium which was upgraded and reopened in 1994 and now specialized in wholesale items. Other markets Phsar Chas, Phsar Orussei, Phar DoeumKor are specialized more for local items and have fewer international items of interests to the tourists.

One of the most surprising things about Phnom Penh is the quality of its **supermarkets**. Lucky is the largest supermarket chain in Phnom Penh, boasting outlets in few choice locations in the city. Each store carries a wide range of products that are unique to that particular store, although all carry a large number of American brands. What makes the best overall shopping experience is the good selection of fresh meats and seafood, fruits and vegetables, bakery department and a well-stocked toiletries section. Thai Huot is a small but well-stocked grocery that carries a wide range of French and other European products. Their cheese selection is quite good and they also have pates and other refrigerated French products. As far as pantry products, Thai Huot has a good selection of jams and tinned foods. Bayon is the best grocery for dry goods and pantry supplies. Their selection of breakfast cereals is better which carry brands from the USA, Germany, Egypt and more. They also have a very large selection of snack foods, tinned foods, dried legumes and sweets. They carry many Singaporean, Japanese and Korean items and have good high-end products from around Asia. The Pencil Supercenter collection of products is large, but seemingly random. It's a good place to stock up on British pantry items. They also have a large selection of imported products. The vegetable area is seriously lacking, but the fresh meats section is fairly well-stocked.

Other Tourist Plant Facilities: The **road** rehabilitation program is the linkage between the three broad economic zones or triangle into which the country is divided for transport planning process. These are: First, tourism region, within the triangle formed by Siem Reap, Preah Vihear and Kompong Thom; second, Industrial region, defined by the entire northern coastal region of country; and third, agro-Industrial and eco-tourism region, covering the eastern region of Mekong River, including Ratanakiri. The other corridors connected to the borders are: Corridor 1: National Road 5 and National Road 1 connecting Bangkok/ Thailand with Ho Chi Minh City, Vietnam via Poipet, Sisophon, Battambang, Phnom Penh and Bavet. Corridor 2: National Road 7, 6 and 4 connecting of Southern port to Southern Lao via Phnom Penh, Kampong Cham, Kratie, Stung Treng and Voeun Kham. Corridor 3: National Road 48 connecting National Road 4 with Thailand, eastern sea-board via Koh Kong Hat Lek/ Cham Yeam (Thai / Cambodia border) – SreAmbel. Corridor 4: Various National Roads connecting Bangkok to port of Qui Nhorn / Vietnam via Poipet, Siem Reap, Stung Treng, Banlun, O Yadav.

The Phnom Penh **International Airport** can accommodate two million people. For the comfort of the international travelers, the airport premises include waiting lounges and VIP Lounges where travelers can relax waiting for their respective airlines. The Phnom Penh International Airport also includes food and beverage counters. There are three restaurants at the International Airport in Phnom Penh. The restaurant and the bar offer an excellent selection of drinks and snacks including sandwiches and soups. Outside the Terminal, there is a common food-court which offers a wide range of Asian food including hot dogs and sandwiches.

For the convenience of the passengers, the airport authority at the Phnom Penh International Airport has started providing Wireless Internet Service. One can access this Hotspots Service at the Ground Floor and the First floor of the International Terminal.

The Cambodian **railway** system consists of 621 kilometer of track, including a 385 kilometer Northern Line constructed between 1929 and 1942, which runs from Phnom Penh to Poipet in the North-west, and a 236 kilometer Southern Line built in the late 1960s, which runs from Phnom Penh to seaport Sihanouk Ville. Long-term development plans of railways include the construction of a 225 kilometer line from Phnom Penh to Loc Ninh in Viet Nam, a 105 kilometer line from Sisophon to Siem Reap, the installation of modern repair and maintenance equipment, and human-resource development. Northern Line runs through rich agricultural areas that are poorly served by the road network, and potentially connects with the Thai railway system, becoming a part of the proposed trans-Asian Railway linking the ASEAN sub region with China, from Singapore to Kunming.

The **Sihanouk Ville Autonomous Port** is the sole international and commercial deep seaport of the Kingdom of Cambodia. At present, the total operational land area of the Sihanouk Ville Autonomous Port is around 124.76 ha. The Old Jetty was constructed in 1956 and became operational in 1960. This jetty is 290 meter long by 28 meter wide and can accommodate four vessels with medium GRT at both sides. The exterior berth is -8.50m-13m depth, while the interior berth is -7.50m -8.50m depth. The construction of Container Terminal with 400m long by -10.50m depth and 6.5 ha of container yard was fully completed on March 2007.

Phnom Penh Autonomous Port is an international port which is under the supervision of the Ministry of Public Works and Transport and the Ministry of Finance and Economy. It is located two kilometer from the Chak Tomouk confluence; the access distance to the port is about 332 kilometer from the Cuu Tieu entrance mouth, part of South China Sea, and about 100 kilometer from Kaam Samnar, Cambodia-Vietnam border gate. The port plays an important role as a hub for inland water transport, especially, for tourists traveling from Phnom Penh to Siem Reap and the export of rubber and timber.

Telecommunications: Most hotels and the post offices have international phone/fax. Overseas calls run $1.60-$3.00/minute. Domestic calls are 500-700 riel/minute from street side phone booths. Internet access at Internet cafes and shops is usually fast and relatively inexpensive and widely available at internet shops and cafes all over town, especially in tourist areas such along Sisowath Quay at the riverfront. Wi-Fi Internet Access is available at many of the hotels as well as a number of restaurants and bars. Many of the restaurants/ bars offer free access, though downloads are often limited. Phnom Penh has several internet providers offering various internet systems and pricing packages for home and office.

All Cambodia's **mail** is consolidated in Phnom Penh. Sending mail from provincial cities seems as reliable as posting from the capital, though it costs a little more. Within the capital itself, only the main post office is geared up to accept mail bound for abroad. Mail to Europe, Australasian and North America takes between five and ten days to arrive, leaving Phnom Penh for major international destinations around twice a week the specific days can be checked at the main post office. Parcels can only be posted in Phnom Penh. Besides, one can post at private companies, such as DHL – Worldwide Express, FedEx, TNT, UPS, etc.

Cambodian strategy for the development of **electricity supply** is to construct transmission lines between major cities in southern and western regions in order to construct large-scale power generating plants and to import electric power from neighboring countries during the construction period of such power plants. Electricite Du Cambodge (EDC) has a consolidated license (generation, distribution and transmission) for electricity supply in Phnom Penh, Kandal, and in the 12 provincial capitals. The electricity supply currently does not meet the basic demands, where 24-hour supply of electricity is not assured and the quality of electricity is not reliable.

Public Health and Emergency: In Phnom Penh, ambulances team is on 24-hour stand-by to transfer patients rapidly and effectively. An experienced Medevac company is also available, at all times, to rapidly transfer patients from home, by helicopter, to Phnom Penh HealthCare Center and the Bangkok Hospital. Though the medical facilities are still limited and in many cases not up to international standards, there has been much improvement in recent years, offering a greater range and quality of services. There are several foreign doctors and international clinics in town. Calmette Hospital and the international clinics can handle most medical problems but serious illness or injury may still require medical evacuation, probably to Bangkok or Singapore. In addition to general medical services, the international clinics also offer evacuation and medical translation services. Though the cost of medical care is fairly nominal in Cambodia, the cost of medical evacuation is exorbitant.

Currency: US dollars are as commonly used as the Cambodian Riel. Most hotels and many restaurants and shops set their prices in US dollars. Small transactions are usually done in Riel. It is advisable always to carry some small Riel for small payments. Riel notes come in 50, 100, 200, 500, 1000, 5000, 10,000, 50,000 and 100,000 denominations.

There are **banks** in all provincial capitals in the country. Banks offer the usual banking services. Most banks are open from morning 8:00 to 15:00 or 16:00 PM, Monday through Friday. Some are open Saturday morning until 11:30 AM. ATMs are available 24 hours. Money Changers offer a slightly better rate than the banks. They are plentiful and tend to cluster around the traditional markets. Travelers' checks are accepted at most banks, major hotels and restaurants and some money changers. 'Instant' cash transfers can be done through Money Gram or Western Union.

In Phnom Penh which sees a steady flow of traffic, **hotels** improve significantly. For US dollar 20 or less it is usually possible to find an air-conditioned room with satellite TV and attached bathroom. International Standard hotels are available in Phnom Penh. Further, Phnom Penh has many international **restaurants** along with several Thai, Chinese and Indian restaurants in town, all of which can be a bit less expensive than the Western places. Pizza parlors are plentiful. Cambodian restaurants scattered around town are numerous, which setup door tables and chairs in the evenings. These places are much about drinking beer as about eating, but they're lively places for an inexpensive meal and the food is usually very good.

Public and Private Transport: There are small meter taxi services with taxis available on call. More common are unmetered, unmarked taxis which can be arranged through hotel or travel agent, and can also be found outside hotels. Motors (Motodups) are the most common form of public transportation but are certainly not the safest. The humble Cyclo can be a romantic and practical form of transport though not as safe as a car or fast as motor. There are a few of bus companies providing transportation between

Phnom Penh and the provinces that have better road and connect with Phnom Penh. Mostly buses are air-conditioned and equipped with Video TV. Bus stations are mostly located around Phsa Thmey (New Central Market) area. There are few boat companies currently providing services between Phnom Penh and Siem Reap and one boat company is operating from Phnom Penh to Chau Doc. Since there is limited number of passengers to travel, boat companies are taking turn to cruise, one company a day. Ticket shall be bought at least one-day advance for the assured seat but it is also available at location. All boats are equipped with air-conditioner, toilet and Video TV. Motorcycles (100cc-650cc) can be rented for US dollar five to nine per day. Tourists usually rent 250cc bikes, though they are a bit too much bike for the slow city traffic. Many guesthouses rent bicycles for around one US dollar a day.

Tour operators are the organizers and providers of package holidays. They make contracts with hoteliers, airlines and ground transport companies and then print brochures by advertising the holidays. **Travel agents** give advice and sell and administer the bookings for a number of tour operators. There are many travel agency shops ranging size from the multiples, with several hundred outlets each, to the individual shop. In Phnom Penh, the specialized travel agents have always served and provided the visitors such as Inbound-Outbound Travels & Tours Operator with specialist in tailor made in Indochina package tours, air travel ticketing, worldwide and domestic air ticketing, worldwide hotel reservations, last minute vacation deals, passport/visa arrangements, Cambodian visa extensions, bus/boat ticket reservations, railway tickets (in specific countries) tour guide, bus, van, and car rentals, cargo-courier and travel insurance.

5. Conclusion

The foregoing analysis has made it clear that the study area, i.e., the capital city of Cambodia-Phnom Penh is quite rich in both natural and man-made resources. However, commercial, industrial, scientific and educational institutions of special tourist interest are largely scarce as compared to some of the south-east Asian countries, such as Singapore, Malaysia, Indonesia, Thailand, etc. In spite of several challenges, Phnom Penh plays an important role for the region as many corridors are to link to other ASEAN countries such as Thailand, Viet Nam, Lao PDR; and to China, Kunming by passing Vietnam; to Malaysia, Singapore, by crossing Thailand and to India, by passing Thailand and Burma. Thus, due to its several advantages and potentialities, Phnom Penh attracts an increasing number of international visitors from all over the world. To further attract the visitors a systematic and in-depth study with respect to resource potential assessment needs to be undertaken by researchers.

References

Dowling, R. (1993). An Environmentally-based Planning Model for Regional Tourism Development. *Journal of Sustainable Tourism,* 1 (10), pp. 17-37.

Ferrario, F.F. (1978). *An Evaluation of the Tourist Resources of South Africa.* Unpublished Doctoral Thesis, University of California.

Gearing, C.E., Swart, W.W. and Var, T. (1974). Establishing a Measure of Touristic Attractiveness. *Journal of Travel Research,* 12 (4), pp. 1-18.

Ko, T.G. (2005). Development of a Tourism Sustainability Assessment Procedure: A Conceptual Approach. *Tourism Management,* 26 (3), pp. 431-445.

Melian-Gonzalez, A. and Garcia-Falcon, J.M. (2003). Competitive Potential of Tourism in Destinations. *Annals of Tourism Research,* 30 (3), pp.720-740.

Mill, R.C. and Morison, A.M. (1985). *The Tourism System: An Introductory Text.* New Jersey.

National Institute of Statistics (2011). *Statistical*

Yearbook of Cambodia 2011. Ministry of Planning, Royal Government of Cambodia, Phnom Penh, Cambodia.

Phnom Penh Autonomous. [Online] Available: http://www.ppap.com.kh

Priskin, J. (2001). Assessment of Natural Resources for Nature-based Tourism: The Case of the Central Coast Region of Western Australia. *Tourism Management,* 22 (6), pp. 637-648.

Var, T., Beck, R.A.D. and Loftus, P. (1977). Determination of Touristic Attractiveness of Touristic Areas in British Columbia. *Journal of Travel Research*, 15 (3).

Wat Langka Phnom Penh- Angkor Focus Travel. [Online] Available: http://www.angkorfocus.com/phnom-penh-tourist-attractions/wat-langka-phnom-penh.html

World Tourism Organization (UNWTO) (2013). *UNWTO Tourism Highlights*.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 87-92

Flows of Foreign Aid and its Impact on Economic Growth of CMLV Nations of South-East Asia

Kim Kanika [1]

RESEARCH ABSTRACT

Title	Flows of Foreign Aid and its Impact on Economic Growth of CMLV Nations of South-East Asia
Research Scholar	Kim Kanika
Supervisor	Prof. (Dr.) Tapas Ranjan Dash
Department/School/ University	Graduate School of Economics and Rural Development, Institute of Graduate Studies, Build Bright University
Degree Awarded	Ph.D. in Economics
Year of Award of the Degree	2012
Availability of Thesis	Build Bright University Library, Cambodia

Foreign aid plays a key role in promoting economic growth of a number of Third World countries. It is widely accepted as a flow of financial resources from developed to developing countries on development grounds. The role of foreign aid in promoting economic development of the recipient economies is explained in terms of concepts, such as "the savings gap" and "the foreign exchange gap". Thus an important objective of much Official Development Assistance (ODA) commonly known as 'foreign aid' to developing countries is the promotion of economic development and welfare, usually measured by its impact on economic growth.

The role of foreign aid in the growth process of developing countries has been a topic of intense debate. After decades of capital transfer to developing countries, the effectiveness of foreign aid in achieving the stated objectives remains questionable. While some studies found aid robustly causes positive economic growth on average, others urged that a large proportion of foreign aid flowing from developed to developing countries

[1] Operations Manager, Conservation International, Cambodia. Mobile: (855) 89 543 089, E-mail: kkim@conservation.org

is wasted and only increases unproductive public consumption. Thus, empirical studies undertaken have largely failed to provide a conclusive picture as to the extent that aid contributes to economic growth and development.

Cambodia, Myanmar, Lao PDR and Vietnam known as CMLV nations are located in South-east Asia. Among them, while Cambodia and Myanmar are low-income economies, Lao PDR and Vietnam are lower middle income countries. These four countries are struggling to improve their economies through several reforms, and much dependent on foreign assistance due to their poor infrastructure and capital base. Considering the poorness and characteristics of the CMLV nations, the present study has been undertaken to examine whether there is any link between foreign aid and economic growth in these economies.

On the basis of the problem statement and need for research, the study has been undertaken to provide answers to the following research questions:

i. What are the current debates on the efficiency of foreign aid in promoting economic growth of several economies around the world?
ii. How are the economic status and positions of CMLV nations over the period of ten years, i.e., 2000 to 2009?
iii. What is the foreign aid situation in terms of total dollars, foreign aid as a share of GDP and per capita foreign aid in CMLV nations over the period 2000 to 2009?
iv. What is the annual percentage variation of foreign aid flows to CMLV nations during the study period?
v. What is the estimated amount of foreign aid flows to CMLV nations over the period 2011 to 2021?
vi. What is the impact of foreign aid on the economic growth in CMLV nations over the period 2000 to 2009?

The study has been undertaken with the following objectives:

i. To critically review the empirical studies on the efficiency of foreign aid in promoting economic growth of several economies around the world;
ii. To assess the economic status and positions of CMLV nations over the period 2000 to 2009;
iii. To analyze the foreign aid positions of CMLV nations in terms of total dollars, foreign aid as a share of GDP and foreign aid per recipient over the period of ten years – 2000 to 2009;
iv. To find out the annual percentage variation of foreign aid flows to CMLV nations during 2000 to 2009;
v. To estimate the amounts of foreign aid flows to CMLV nations over the period 2011 to 2021;
vi. To examine the impact of foreign aid on the economic growth of CMLV nations over the period 2000 to 2009; and
vii. To provide policy measures for ensuring effectiveness of foreign aid in promoting economic growth in the CMLV nations.

The study has tested the hypotheses which are as follows:

Ho 1: Foreign aid does not have significant impact on the economic growth of Cambodia during 2000 - 2009.
Ho 2: Foreign aid does not have significant impact on the economic growth of Myanmar during 2000 - 2009.
Ho 3: Foreign aid does not have significant impact on the economic growth of Lao PDR during 2000 - 2009.
Ho 4: Foreign aid does not have significant impact on the economic growth of Vietnam during 2000 - 2009.

An extensive review of literature was carried out to look into the implications of conceptual and several empirical studies on the relationship between foreign aid and economic growth in several economies around the world. Conceptually the meaning and types of foreign aid, its objectives along with the motives of foreign aid both from the donor as well as recipient points of view have been discussed. In addition, empirical studies were reviewed to look into the impact of foreign aid on economic growth in several countries. From review of empirical literature it was revealed that the effectiveness of foreign aid is still inconclusive. As no systematic study has so far been carried out on the effectiveness of foreign aid on the growth of CMLV nations, the present study is a modest attempt to fill-up the gap in this direction.

To achieve the objectives and test the hypotheses, the study has collected secondary information from several sources, such as the World Bank, the Organization for Economic Co-operation and Development (OECD), the World Trade Organization (WTO), the International Monetary Fund (IMF), the Asian Development Bank (ADB), and other national and international organizations. Both descriptive and quantitative analysis have been carried out in the study. Several statistical tools, such as average, percentage, linear quadratic function model and multiple regression have been used in the study. The study has also carried out both tabular and graphical analysis to analyze the data collected as per the objectives of the study.

The study has analyzed the data and come up with the results as given below:

First, the economy of Cambodia remains largely agrarian and is one of the poorest nations of South-east Asia. The economy grew at 10 per cent annually between 1998 and 2008, driven largely by an expansion in the sectors, i.e., construction, agriculture and tourism. According to the World Bank, Cambodia has achieved the Millennium Development Goal (MDG) of halving poverty by 2009. The economy of Cambodia today is one of the fastest growing economies in South-east Asian region.

Second, Myanmar though is a resource rich country but is one of the poorest nations in the South-east Asia. The economy of Myanmar suffers from serious macroeconomic imbalances and confronts with several weaknesses. The country has been placed as a low-income economy by the World Bank. However, during the period 2000 to 2009, Myanmar had experienced a double digit growth of the economy. The economy of Myanmar today is in need of fundamental structural reform.

Third, Lao PDR though is a landlocked country with an inadequate infrastructure, but the economy continues to develop rapidly driven by natural resources boom, such as hydropower and mining. Recently the World Bank has placed Lao PDR under the lower middle income category. In spite of world economic recession, the economy of Lao PDR grew at a rate of 7 to 8 per cent during 2007-2009.

Fourth, Vietnam is one of the fastest growing economies of South-east Asia. The shift from a centrally planned to a market economy within a quarter of a century has transformed Vietnam from one of the poorest nation of the world to a lower middle income country with per capita income of USD 1,130 by the end of 2010. Over the period 2000 to 2008, the economy of Vietnam grew at a rate of 6 to 8 per cent annually.

Fifth, altogether the CMLV nations during the period 2000 to 2009 had received foreign aid amounting to USD 31,400,410,000. Among the CMLV nations, in total, the highest aid over the period 2000 to 2009 was received by Vietnam (USD 20,564,310,000), i.e., 65.5 per cent followed

by Cambodia (USD 5,509,340,000), i.e., 17.5 per cent to total CMLV nations. Further, it is found that in all the years under study, while Vietnam was the largest, Myanmar was the smallest recipient of foreign aid.

Sixth, Foreign aid flows to CMLV nations during the period 2000 to 2009 though mostly had increased, but aid as a percentage to GDP of the respective economies had fallen during the same period. For the CMLV nations as a whole, foreign aid as a percentage of the GDP was 5.62 in 2000 which had fallen to 3.57 in 2009.

Seventh, among the CMLV nations, in 2009, foreign aid per capita was highest for Lao PDR (USD 68.55), whereas it was smallest for Myanmar (USD 7.48). Though the foreign aid flows to Lao PDR was much smaller as compared to Cambodia and Vietnam, aid per recipient of Lao PDR was highest in all the years (2000 to 2009) among all the four countries. Aid flows in terms of USD to Vietnam though was highest among all the four nations, but on per capita basis the aid flows in terms of USD to Vietnam were fairly small due to its large population size.

Eighth, Cambodia had received a greater amount of foreign aid year after year during 2000 to 2009 with a few exceptions. The flows of foreign aid to Cambodia had reached the highest, i.e., USD 742,840,000 in 2008. The estimated values of foreign aid flows to Cambodia have shown a continuous increase for the period 2011 to 2021. In 2021, the value of foreign aid as estimated will reach USD 1,431,928,336, an increase of 75.2 per cent over the estimated value of USD 817,266,424 in 2011.

Ninth, during the period 2000 to 2009, Myanmar had received the highest amount of foreign aid, i.e., USD 534,430,000 in 2008. There was an increase of USD 338,540,000 flows of foreign aid in 2008 over the previous year 2007 which resulted in an increase of 172.82 per cent. The estimated values of foreign aid flows to Myanmar have shown a continuous increase over the period 2011 to 2021. In 2021, the value of foreign aid as estimated will reach USD 1,707,329,175 as compared to USD 510,871,576 in 2011, which will be an increase of 234.20 per cent over the period 2011 to 2021.

Tenth, in case of Lao PDR, while the foreign aid flows in 2008 had reached a maximum of USD 495,590,000, in 2001, it was the lowest, i.e., USD 244,840,000. Since the year 2002, there had been a continuous rise in foreign aid flows till 2008 with an exception in the year 2004. The estimated values have shown a continuous increase of foreign aid flows to Lao PDR over the period 2011 to 2021. As per the estimated values, in 2021 the foreign aid flows will reach USD 893,695,916 as against USD 491,137,455 in 2011.

Eleventh, the flows of foreign aid to Vietnam had reached the highest, i.e., USD 3,731,690,000 in 2009. Since the year 2002, there had been a continuous increase in the flows of foreign aid with an exception in 2006. The estimated values of foreign aid flows to Vietnam have shown a continuous increase over the period 2011 to 2021. It is estimated that Vietnam will get foreign aid amounting to USD 10,467,296,462 in 2021.

Twelfth, during the ten years, the highest amount received by the four countries amounting to USD 5,227,930,000 was in 2009. Since the year 2003, there had been a continuous increase in the flows of foreign aid to these four countries with an exception in 2006. The estimated values have shown a continuous increase of foreign aid flows to the group of four nations over the period 2011 to 2021. As estimated, the amount of foreign aid will reach USD 14,500,149,888 in 2021 against USD 5,652,041,333 in 2011 indicating thereby an increase of 156.55 per cent over the period of 11

years.

Thirteenth, in case of Cambodia, the regression result had shown that none of the independent variables, i.e., share of exports to GDP (EX), share of government final consumption expenditure to GDP (GE), share of agriculture to GDP (AG), foreign aid as a percentage of GDP (FA) and literacy rate (LR) were found to have significant impact on the dependent variable economic growth (EW).

Fourteenth, with regard to Myanmar, it was found that the independent variables, i.e., share of exports to GDP (EX), share of Government final consumption expenditure to GDP (GE) and share of agriculture to GDP (AG) had significant impact on the economic growth of the country during the period of study. But foreign aid as a share of GDP had no significant impact on the dependent variable, i.e., economic growth of the country.

Fifteenth, in case of Lao PDR, none of the independent variables had significant impact on the dependent variable, i.e., economic growth of the country.

Sixteenth, in case of Vietnam, three independent variables, i.e., foreign aid as a share of GDP (FA), share of exports to GDP (EX) and literacy rate (LR) had significant impact on the dependent variable economic growth.

Seventeenth, in case of Vietnam, the study revealed that foreign aid as a share of GDP had significant positive impact on the economic growth of the country. However, in case of Myanmar and Lao PDR, foreign aid had a negative impact on the growth of the respective economies and there was no significant impact of foreign aid on the economic growth of Cambodia.

Thus, the present study had shown mixed result on foreign aid and economic growth in the CMLV nations.

On the basis of the research, the policy implications and suggestions given by the study are as follows:

First, considering the case of Vietnam, the impact of foreign aid on economic growth has been significant and hence the finding provides additional justification to scale up significantly the volume of development aid over the coming years.

Second, given the risks associated with large aid inflows to the CMLV nations as well as their potential limits to its impact on development, policy-makers in all the four countries must cooperate closely with the donor community in order to enhance the effectiveness of aid funds.

Third, it is necessary for the CMLV nations to strengthen their domestic policies and institutions in ways that can improve the investment and trade climate. As such, this can facilitate in enhancing the effectiveness of aid funds in these economies in future.

Fourth, considering the nature and characteristics of the countries under study, scaling up aid creates a need for enhanced coordination of monetary and exchange rate policy with fiscal policy in order to ensure aid effectiveness.

Fifth, by increasing the quality of governance and institutions in the CMLV nations, more private capital can be attracted and effectiveness of aid can be ensured.

Sixth, there is a need for greater harmonization between donors and recipients and between various donors for the same recipient. This issue is particularly important given that potential synergies have not been fully exploited in the CMLV nations, and that better development

outcomes could be achieved by improving the two-way communication among all partners.

Seventh, in order to ensure a stronger impact of aid on development it is essential that the framework and guidelines should be established and be actually applied in development strategies, programmes and projects.

Eighth, CMLV nations need to improve their policy implementation by enhancing their capacity of institutions that are responsible for the management of aid funds. Countries with a good performance and implementation record need to have greater ownership of the aid projects must receive a larger share of total aid in the form of programme funding. By contrast, countries with relatively poor institutions should receive more of their aids as project aids, especially if it is of a shorter-term nature.

The study finally concludes that in the light of the poorness of the selected economies, the role of foreign aid in enhancing the economic growth of CMLV nations assumes special significance. As foreign aid is a significant source of income to developing countries to meet one or more broad economic and development objectives, the present study is considered as crucial in view of the CMLV nations of South-east Asia. As the role of foreign aid in the growth process of developing countries has been a topic of intense debate, the present study and previous works need to be the building blocks for further study in this direction. Thus the present study has significantly contributed to the empirical debate on the effectiveness of foreign aid relating to economic growth of CMLV nations of the South-east Asia.

International Journal of Business and Development Research (IJBDR)
Vol. 2, No. 1, January-June, 2013, pp. 93-98

Asset and Liability Management and its Effects on Banking Operation – with special reference to ACLEDA Bank Plc., Cambodia

Ung Sam Ol[1]

RESEARCH ABSTRACT

Title	Asset and Liability Management and its Effects on Banking Operation – with special reference to ACLEDA Bank Plc., Cambodia
Research Scholar	Ung Sam Ol
Supervisor	Prof. (Dr.) Manaranjan Behera
Department/School/ University	Graduate School of Economics and Rural Development, Institute of Graduate Studies, Build Bright University
Degree Awarded	Ph.D. in Economics
Year of Award of the Degree	2013
Availability of Thesis	Build Bright University Library, Cambodia

Asset and Liability Management (ALM) is broadly recognized as an important tool for banking business. It is the management key for connecting operational activities and management variables in banking to create the opportunities of banking businesses in the competitive market. With the objective of developing the banking system in the country, the Royal Government of Cambodia (RGC), especially the National Bank of Cambodia (NBC), has issued a number of prudential regulations in relation to asset and liability management of a bank in accordance with the rectangular strategies of the RGC.

ACLEDA Bank Plc. in Cambodia is one of the banks working under the rules, laws and regulations of the NBC. The bank has provided a full range of banking products and services overcoming the difficult situations to meet the needs of the customers/markets in the country. It has continuously set up long-term growth strategies for the steady increase of its productivity

[1] Senior Vice President & Head, Trade Finance Division, ACLEDA Bank Plc., Phnom Penh, Cambodia. Mobile: (855) 12 255 881, E-mail: samol@acledabank.com.kh

to suit the local and global environment. The bank is known as an organisation which has strong financial position with competitive advantage of its banking business management and accounting standard in the country. As ALM is an important issue for the development of banking business, and ACLEDA Bank Plc. is one of the leading banks in the country, therefore, the present study has been undertaken on ALM and its effects on banking operation with special reference to ACLEDA Bank Plc., Cambodia. The research questions of the study are as follows:

i. How do the previous studies and concepts well indicate ALM and its effects on banking operations?
ii. What is the banking system in Cambodia and the current banking issues in relation to the ALM?
iii. What are the problems faced by banks from regulatory compliance with banking management and development in Cambodia?
iv. How are the legal and regulatory frameworks related to ALM enabling ACLEDA Bank Plc. for participation and development in financial service industry in the country?
v. How has the ALM of ACLEDA Bank Plc. significantly contributed in creating the bank shareholder's value?
vi. How are the roles of Asset and Liability Management Committee (ALCO) and ALM department closely connected to the result of the risk and benefit for ACLEDA Bank Plc.?

The objectives set for the present study are as follows:

i. To review the related literatures of the study;
ii. To analyze the banking system in Cambodia, and to assess the current banking issues in relation to the ALM policy or regulation of the NBC;
iii. To identify the problems faced by the banks from regulatory compliance with banking development and management in Cambodia;
iv. To analyze the banking profile in relation to the governance of board of directors, shareholders, managements, capital structure, and financial performance of ACLEDA Bank Plc.;
v. To examine the effects and importance of ALM in the banking operation of ACLEDA Bank Plc.;
vi. To assess the impacts of the application of ALM and its contribution in creating the ACLEDA Bank Plc. shareholder's value;
vii. To find out the potential elements in management of Asset and Liability Management Committee (ALCO) and the ALM department relating to the risk and benefit for ACLEDA Bank Plc.; and
viii. To suggest recommendations for better ALM of ACLEDA Bank Plc.

The study has tested the following null hypotheses:

$H_0$1: The legal and regulatory frameworks related to Asset and Liability Management are not enabling ACLEDA Bank Plc. to participate and develop the financial service industry in the country.

$H_0$2: The Asset and Liability Management of ACLEDA Bank Plc. has not significantly contributed in creating shareholder's value through day-to-day decisions making in the banking operations.

$H_0$3: The roles of Asset and Liability Management Committee (ALCO) and the Asset and Liability Management (ALM) department are not closely connected to the risk and benefit for ACLEDA Bank Plc.

The type of analysis conducted in the present study is both descriptive and quantitative in nature. The primary data of the study were collected from 134 sample respondents who were professional staff and officers of the departments of Treasury,

Internal Audit, Operation, and Finance and the Management Group of ACLEDA Bank Plc. The secondary data were gathered from various sources of documents/articles such as published/ unpublished provisions, regulations, policies, procedures, guidelines, circulations and Prakas from NBC, published and unpublished operational policies, working procedures, implemented guidelines, financial management reports, compliance reports, and statements or minutes with regard to the issues of ALM of ACLEDA Bank Plc. Additionally, the publications and web pages of the local and international financial institutions and banks and/or other related national and international organizations were also referred for the study. The statistical tools, such as average, percentage, ratio and graphs, etc., were used for analysis and presentation of data in the study.

The main findings of the study are as follows:
First, the reviews of the previous studies and concepts of ALM reveal that ALM plays a very important role in banking operation to boost banking business management and development. The mediation activities of a bank are the crucial issues, which are in need of the right ALM to assess the connection between the real sectors of surplus and deficit units of fund to get deal done. The main challenge of ALM is a trade-off between risks and rewards in banking business which may affect the welfare of industries and the economy as a whole. When banks stop lending and accepting the risk, the rest of the economy often falls apart with plunging land and security prices, lengthening unemployment lines, failing businesses and bankrupt households.

Second, the banking system in Cambodia has been remarkably developed for the past few years. There are many players who have entered in banking businesses with different scopes of activities in the country. The four categories of institutions such as the NBC, commercial banks, specialized banks and microfinance institutions are well defined by law as the real financial institutions with specific scopes of functions and operations. The NBC acts as a supervisory authority to supervise banks and financial institutions in the country, and the commercial banks, specialized banks and micro finance institutions operate in accordance with the guidelines of the NBC. The banks and financial institutions operating in Cambodia must comply with the law, and regulations of the NBC.

Third, the banking system in Cambodia has been changed in accordance with the changes of the political regime and development. The uncertainty and instability of the ruling government during 1970 to 1979 led Cambodia to fall into a chronic civil war, which made the country to fall in the weakness of development. Liberalizing and authorizing the banking system in 1993 was a positive signal to contribute to the country's economic development, but the schemes were not working properly among the members and regulators of the banks. The focus was on the improvement of issues rather than actions taken on real situation such as structural reforms and onsite inspection. The restructuring of banking system during the 2000s affected the system and investors much in the country. Under the open door policy for investment of the RGC for private sectors, some investors entered into the banking business with less social acceptance and unclear operating policies of the banks. The process of authorization of the NBC for banking operating license and operational activities was not good. The policies on the minimum paid up capital, licensing, license fee and other concerning procedures promulgated by the NBC were a hard adaptive implementation causing closure of the banks in late 2002. But the increasing number of banks during 2008 to 2009 led to get into difficulty in their operating profits as those banks entered into competitive actions in the same market creating unfair pricing products and services. By late 2009, there were 27 commercial

banks and six specialized banks, 20 licensed microfinance institutions, and 26 registered rural credit operators running banking businesses in Cambodia.

Fourth, ACLEDA Bank Plc. is a public limited company formed under the Law on Banking and Financial Institutions (LBFI) of the Kingdom of Cambodia. ACLEDA was established in January 1993 as a national NGO for micro and small enterprises' development and credit. With the successful expansion of its network throughout Cambodia and its capacities to operate at a profit ensuring sustainability, together with assistance from its international partners, ACLEDA started to act on a three-year program of transformation which commenced in 1998. On 7th October 2000, ACLEDA was successfully licensed by the NBC as a specialized bank called ACLEDA Bank Ltd., and then, on 1st December 2003, it was fully licensed by the NBC as a commercial bank namely ACLEDA Bank Plc. Since it became a commercial bank in 2003, ACLEDA Bank Plc. has had seven local and international shareholders participating in their capital investment for banking in Cambodia. With clearly segregated duty/responsibility, transparent activities and respectful environment principle among ACLEDA Bank Plc. board of directors, managements of all levels and staff, the growth results as a whole in the bank have been recognized. By late 2009, the bank branches' network had 232 operating offices throughout the country offering convenient products/services. The bank absorbed a high rate of market share of 22 per cent in lending, 21 per cent in depositing, and 18 per cent in assets amounting to USD 544 million, USD 692.2 million, USD 906 million respectively in 2009.

Fifth, with regard to ALM and its effects on banking operation with special reference to ACLEDA Bank Plc., Cambodia, four major issues such as legal and regulatory issues on ALM, the achievement due to ALM, the impacts of ALM on financial performance and shareholder value of ACLEDA Bank Plc., and the roles of the ALCO and ALM department in connection with the results of risks and benefits for ACLEDA Bank Plc are raised. The analysis reveals that the banking prudential measures related to ALM were issued and put into actions by the NBC, and the results of the implementation of the prudential measures during 2003 to 2009 indicated that the banking sector was well managed in the country. By late 2009, all required measures were complied, and as a result, liquidity ratio was managed by 90/50 per cent, solvency ratio by 32/15 per cent, fixed assets by 16/30 per cent, loans to related parties by 1.29/10 per cent, etc. The study also found that ACLEDA Bank Plc. had managed all positions perfectly, e.g., liquidity ratio: 76.72 per cent, registered capital: USD 68.15 million, net worth: USD 138.415 million, solvency ratio: 24 per cent, classifications and provision for bad and doubtful debts: well followed, large credit exposures: well managed, loans to related parties: five per cent, fixed assets: 16.23 per cent, net open position in foreign currency: well managed, etc. in 2009. The bank shareholders' value increased from USD 24,657,698 in late 2003 to USD 106,654,748 by the end of 2009. These achievements were due to the hard work of all stakeholders, especially the leading roles of ALCO and ALM departments of ACLEDA Bank Plc.

Sixth, the analysis confirmed that the three null hypotheses Ho1, Ho2 and Ho3 were completely rejected. In other words, the legal and regulatory frameworks related to Asset and Liability Management enabled ACLEDA Bank Plc. in the participation and development of the financial service industry in the country; the Asset and Liability Management of ACLEDA Bank Plc. had significantly contributed in creating shareholder's value through day-to-day decisions making in the banking operations; and the roles of Asset

and Liability Management Committee (ALCO) and the Asset and Liability Management (ALM) department were closely connected to the result of the risk and benefit for ACLEDA Bank Plc.

On the basis of the findings, the following recommendations are suggested to the bankers and bank managers to improve the ALM in order to have effective and efficient banking business in Cambodia as a whole and at ACLEDA Bank Plc. in particular leading to sustainable growth and comprehensive banking operations in the country:

1. All banks in Cambodia should manage its assets and liabilities properly as it can help management with deeper insight to develop the banking business in Cambodia.
2. The management of the banks in Cambodia should permanently justify whether or not their own operational strategies related to ALM in the banking operation are workable, effective, and efficient. If so, the management should continue to improve those to ensure that the sustainability, growth and comprehensive banking businesses are going through the channel of the evolutions in the real market situation.
3. Liquidity risk management is the key concern of both ALM group and ALCO for ALM in banking businesses. Too much liquidity has a negative impact on profitability, and too little liquidity increases the cost of funding. Thus, banks in Cambodia should be aware of these relative actions and make sure on the availability of funds, which can meet all obligations at a reasonable price and at all times.
4. The lack of the systematizing controls of the banking operations of the four major sources of interest rate risks, such as re-pricing risk, yield curve risk, basis risk, and optionality, is the main reason, which affects the reverse changes in interest income as well as financial performance of the bank. Hence, banks in Cambodia should have good management information system (MIS) in place to manage the changes that have an effect on market interest rate on time.
5. The weakness in capital management was found among the banks in the country, and this has created unfair banking development. Therefore, banks in Cambodia should manage the capital for ongoing banking businesses through fully complied required regulations and abilities to make strong return to the banks.
6. The medium size banks in Cambodia should set up the ALCO and ALM group to ensure further benefits and developments of banking business without any obstacle.
7. ACLEDA Bank Plc.'s ALM is sized at unit level, which is supervised by the bank's Treasury Division. It has limited activities in receiving the data from related departments to analyze the movement of A/L in banking operations. Thus, the bank should extend its jobs and responsibilities more widely than the present position in relation to the collection of the updated data affecting the changes of the bank's assets and liability including its market price which will have a positive or negative influence on banking businesses.
8. The management structure of fund transfer price and customer price of ACLEDA Bank Plc. was almost remained constant for long time. The pricing of some of the loan products was not so much flexible to the market rates. The bank product pricing should be changed by ALCO in principle by setting the bank base rate and defining minimum or maximum marginal rate in place, and then forwarding it to the pricing committee to work out for banking operations efficiently and effectively.
9. The ACLEDA Bank Plc. strategic policies in relation to internal limitations were not

so widely defined to simplify the banking operations. Therefore, the bank's ALCO should improve and develop the strategies and/or master policies on (i) portfolio investment, (ii) liquidity risk management, and (iii) interest rate risk management.

10. The ACLEDA Bank Plc. was always encountered with the cyclical effects of the fund shortage in almost every few months in the beginning of the year. The bank's ALM/Treasury department should review the actions and determine that the bank has sufficient liquidity to handle normal savings and loan needs and must also be aware of any cyclical changes to ascertain the ability to adapt to the significant changes in the market.
11. The kind of hedging funds were not so active and wide yet in the services of ACLEDA Bank Plc. In this regard, the bank should decide the percentage of short term funds to be transformed to medium or long term financing.
12. Depending on a few potential partners or shareholders, it is not enough for ACLEDA Bank Plc. to gain quick capital support to meet its compliance and ongoing banking businesses as the market needs are highly increasing. The bank should seek to build more relationship with large domestic and international partners/financial institutions, which will help in mounting up the bank's capital larger to fulfill the broad needs of investment diversifications.
13. ACLEDA Bank Plc. should take into consideration to transact the foreign exchange and derivative products with some selected local and international financial institutions to find more extra incomes for offsetting with the interest expenses on deposits, borrowed funds, etc.

Thus, ALM influences actively on banking business in all circumstances. The right applications of ALM rules in banks or financial industries in Cambodia can bring the positive effects on their financial positions and performances. ALM rules can help the banks in Cambodia, including ACLEDA Bank Plc, to improve their financial stability as well as develop the country. The recommendations provided in the study can contribute to the Cambodia's bankers, including ACLEDA Bank Plc.'s policy makers, to significantly improve their banking operations.

International Journal of Business and Development Research (IJBDR)

Subscription Order Form

To order please complete this form and send to us:

Name:……

University/Organization/Institute:……

Address:……
…… City:…… Country:…… Pin:……

Contact No. (With STD Code):……

Fax (With STD Code):…… Email ID:……

1. Payment enclosed
   Cheque/DD/TTNo:…… Date:……
   USD:…… (In Words) ……
   Drawn On:……
2. Please bill me or send me Performa Invoice (in Duplicate/Triplicate)

Subscription Rates for the Year: 2013 (including postal charges)

Subscription Rates	Cambodian (USD)		Other Countries (USD)	
	Two Issues	One Issue	Two Issues	One Issue
Print	75 $	40 $	150 $	80 $
Online	50 $	30 $	100 $	60 $

Terms & Conditions:

1) **For Telex Transfer (USD)**, Please remit the money to:
   - i. Name of Beneficiary : Build Bright University
   - ii. Name of the Bank : ACLEDA Bank Plc.
   - iii. A/C No. : 0001-20-231337-16
   - iv. Swift Code : ACLBKHPP
   - v. Country : Cambodia

2) Payment to be drawn in favour of "Build Bright University" payble at Cambodia

3) For online subscription, please e-mail to: editor.ijbdr@bbu.edu.kh

GUIDELINES FOR CONTRIBUTORS

International Journal of Business and Development Research (IJBDR) is a Bi-Annual, peer reviewed, and internationally refereed scholarly Journal published by Build Bright University, Cambodia. The primary purpose of IJBDR is to publish scholarly research articles in the areas of business management, social sciences and development studies. The general guidelines for the authors are as follows:

1. Manuscripts submitted by author(s) for publication in IJBDR should be original contributions and neither been published previously nor is under the consideration for publication elsewhere.
2. Manuscripts should normally not exceed 25 (A4 size) pages, typed in double-space (including footnotes and references) in 12 font in Times New Roman on one side of the paper with wide margins.
3. The cover page of the paper should contain the following:
   a) Title of the article
   b) Author's names
   c) Professional affiliation
   d) Full address of correspondence with e-mail address.
   e) Sponsoring information (if the research is sponsored/supported by an organization)
4. Article should accompany an Abstract of about 150 words which should state briefly the purpose of the research, main findings and major conclusions.
5. Keywords should be provided immediately after the abstract which encapsulate the principal topics of the paper. A maximum of eight keywords should be given.
6. Tables and figures should be placed at the end of the article. However, their location in the text should be indicated clearly as: Table – 1 about here. Author(s) must check tables to be sure that the title, column headings, etc. are clear and to the point. Source must be given below the table.
7. All figures (charts, diagrams and line drawings) should be submitted in electronic form. They should be of clear quality, in black and white and numbered consecutively.
8. Mathematical expressions should be presented in a way that will be easily printable.
9. Endnotes: All notes should be indicated by serial numbers in the text and literature cited should be detailed under reference in alphabetical order of the surnames followed by year of publications.
10. References should be placed at the end of the paper and arranged alphabetically. Author(s) should follow the latest edition of APA style in referencing. Please visit www.apastyle.org to know about APA style.
11. Either British or American spellings should be followed throughout the manuscript. In no case, both standard should be mixed.
12. Author(s) should check their manuscripts for clarity, grammar, spellings, punctuation, and consistency of references to minimize editorial changes.
13. The editorial team has the right to modify or edit the work in order to match the requirement of standard and style of the journal. Further, the Editorial team reserves the right to reject any manuscript that in their opinion is not suitable for publication in IJBDR, without expressly stipulating the reasons for doing so. Under no circumstances will be identity of the reviewer(s) and referee(s) be disclosed to the author(s) or to any other third party not involved in the editorial process.
14. Correspondence and proofs of correction will be sent to the first author unless otherwise specified. The article will be published after receipt of the corrected proofs from the author(s).
15. Manuscripts not considered for publication will not be returned back to the author(s).
16. Author(s) while submitting papers should also certify that the paper has not been published or submitted for publication elsewhere and that it represents author'(s) own work.
17. An author/corresponding author will receive a hard copy of the published journal in which his/her article appears.
18. Manuscripts and all correspondence should be addressed to Prof. Tapas R. Dash, Editor-in-Chief, International Journal of Business and Development Research, Build Bright University, Grey Building, Samdech Sothearos Boulevard, Phnom Penh, Cambodia, Phone: (855) 23 994 773, e.mail: editor.ijbdr@bbu.edu.kh OR tapas_dash@yahoo.co.in

Published by Dr. In Viracheat, Chairman, Build Bright University Council, Cambodia on behalf of Build Bright University, Cambodia. Printer: Prof. Diep Seiha, President, Build Bright University, Cambodia. Editor-in-Chief: Prof. (Dr.) Tapas R. Dash, Vice President, Graduate Studies and Research, Build Bright University, Cambodia.
www.bbu.edu.kh/inter_journal.html