

## **A conceptual frame work to study national defence and economic development\***

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### **1.0 Introduction**

The aim of this paper is to investigate the economic roots of national defence (ND) as a public good. The existing weak epistemological bases of national defence have led for vulnerability in analyzing the economic roots of ND. The ambiguity and the inconsistency of the conclusions of the existing studies witnesses lapses in the existing theoretical underpinning of ND. Therefore there is a need of revolutionary type of studies that enable to explore the economic roots of ND and to have constructive theoretical bases for further studies.

### **1.2 Background of the problem**

Defence as the first duty of the government is coincided with the origin of the government. In the early stage, since the society was simple, the responsibility of the government also simple and therefore, a simple military out fit was sufficient for the government to meet its requirements. Along with the expansion of the society with the openness, inter and intra national competition, internal and external threat on national interest, sovereignty and the integrity of countries, there has been an increasing demand for ND and drawn attention by economists and the policy makers of respective countries.

The accumulated knowledge on the economic dimension of ND as a public good has been one of popular topics in the cold war period and thereafter. But yet it has not been sufficiently filtered in comparing with many of the other disciplines (Chan, 1985; Sandler and Hartley, 1996; Hartley, 2006). Therefore, there is a need of knowledge seeking studies to bridge the vacuum in the subject matter. In this paper assessing, the existing literature on the economic aspect of ND, while giving attention to ND in Sri Lanka as a public good, a conceptual framework will be developed to bridge the gaps in theoretical bases on economics of ND and explore its multilateral relationships.

### **1.3 Objectives of the study**

1. Explore the existing literature and the theoretical structure of ND
2. Identify the contextual features of national defence of Sri Lanka (as a public good)
3. Develop a conceptual frame work to study the relation ship between ND and economic development.

#### **1.4 Research methodology**

Giving attention to empirical experience of ND in Sri Lanka and its contextual features in the light of existing accumulated literature on economics of defence the conceptual frame work has been developed. Therefore, the study method is coming under the inductive approach. In studying social science issues, it is very difficult to follow the positivist approach because of the dynamic nature of social science issues in relation to time and the contextual features. Therefore, rigorous studies on contextual features of issues and generalize the concepts and theoretical features under Grounded theory (GT) going to be useful in identifying problems and to provide guide lines for policy consideration that based on constructive conceptual structure. By considering the nature of ND (as a complex) and its relationship with other socio economic and political issues, the subjectivist method/interpretive method where the researcher look in to the meaning of the factors and their inferences, relationship etc while giving consideration to the contextual determinants, and the holistic view (Silva, 1996), would be important in making meaning full conclusions with respect to the issues of ND and economic development as a social science issue.

#### **2. Review of the existing literature of national defence.**

The concept of economic efficiency of ND by Hitch and Mackean (1960) has been the starting point of micro economic issues of ND. Benoite Emil (1972, 1973 and 1978) who studied on macroeconomic issues of the developing world has opened a new stream on macroeconomic aspect of ND. Both micro and macro economics of defence have tailored the principles/models and concepts in classical, neoclassical and modern economics to suite the problems of ND and to formulate the appropriate ND policies from which the society will be benefited (Sandler and Hartley, 1996). The size of national defence need to be received the public will, firstly, because the returns to expenditure based on the contextual factors of the particular society that include public cooperation and secondly the cost as well as the benefits of national defence needs to be shared by the public. Effectiveness is a necessary condition of national defence as a public good (Balla, 2000).

#### **2.1. Approaches of the Studies on National Defence and Economic Development**

The theoretical knowledge on defence and economic growth primarily can be identified as; 1. Demand side analyses 2. Supply side analyses and 3. Causality analyses.<sup>1</sup> The aim of all analyses is to estimate the relationship between DE and economic growth despite the methodological differences of the studies.

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<sup>1</sup> In "Economics of Defence" written by Todd Sandler and Keirth Harteley has done a survey on the accumulated studies on national defence, and has classified under different models while giving attention to the specific features of the studies. It gives authors of the study, the sample/s of countries, the study period, methodology and the conclusion.

### 2.1.1. Demand Side Analyses

The demand side analyses are generally based on the Keynesian interpretation of aggregate demand in which actual output,  $Y$ , or the potential output  $Q$  is the sum of the components of real demand for goods and services.

$$\text{E.g: } Y = Q - W - C + I + M + B$$

Here  $W$  is the gap between actual and potential output,  $C$  is aggregate consumption,  $I$  is private and public investment  $M$  is the real military expenditure and  $B$  is the balance of payments (net factor income from abroad) The researchers those who focused on demand side analyses, have concerned about the crowding out effect of defence or military expenditure and have analyzed the impact of defence on economic growth. For example Ron Smith (1980b). He has interpreted the Keynesian equation as given below.

$$i = 1 - w - c - m - b,$$

$$i = (1 - \alpha_0) - (\beta - \alpha_1)u + \alpha_2 g - m$$

Here the parameters associated with  $u$ -unemployment and  $g$ - economic growth rate of actual output. Smith concludes that the increase in defence expenditure lead to decline investment and then economic growth. In another study carried out by Smith and Deger have used three equations for savings, economic growth and military and finally estimate the equations and compute military multiplier and compared it with the effect on savings and then on investment. According to the analysis the net effect on economic growth is negative. (Deger and Smith,1983). None of these studies were able to explain whether DE contribute to the economy or not which is the main issue that it has to be focused on.

### 2.1.2 Supply Side Analyses

Supply side analyses of the relationship between defence and economic growth derived from aggregate production function as follows.

$$Y = F(L, K)$$

$$Y = F(L, K, T)$$

Here  $L$ - denote the aggregate labour,  $K$ = denotes the aggregate capital and  $T$  –represent the technology. Here Total output or GDP is composed of non defence sector, defence sector and the civilian sector.

$$Y = N + D + C$$

Differential productivity in the defence and non military public sector is captured by the following relationships.

$$D_L / C_L = D_K / C_K = (1 + \delta_d)$$

$$N_L / C_L = N_K / C_K = (1 + \delta_d)$$

In which subscripts on D,C and N represent partial derivatives or marginal products of labour and capital. In order to cooperate the effects of defence burden on economic growth the weighted average of defence ( $(D/Y)$ ) with the other parameters of equations and measure the externality effect of defence on economic growth. Here in this particular analysis the multi co linearity which create empirical questions can be cited as the methodological problem of the analysis (for example Hung and Mintz, 1991; Ram, 1986).The researchers those who used this model have decomposed the capital and labour for defence and non defence and compared their contribution to economic growth. (Deger and Smith,1983;Muller and Atesoglu,1983)

The supply side analyses improved from the work of Fedder (1963) Ram (1986) and Biswa and Ram (1986). According to this approach it is allowed for a net work of externalities among the sectors and productivity differences in the identified sectors. Here the host of variations of the model exists in the studies that followed in the particular model depending on the pattern of externalities and the number of sectors included in the model. Alexander (1990) used Feder-Ram model where he used four sectors namely nonmilitary public sector, military sector, export sector and private sector. Alexander (1990) indicated that the nonmilitary public sector can provide positive externalities for the other three sectors. This is a reasonable assumption because the nonmilitary public sector provides public inputs such as infrastructure that can benefit to the public with wide variety of activities. In the Alexander (1990) study both the defence and the export sectors are also viewed as major sectors that provide externalities for the private sector.

Even though the Feder-Ram model is effective in measuring the impact of defence on economic growth in comparing with conventional augmented production function yet the following theoretical problems have been experienced. First, the theoretical analysis ignores the interaction between the demand and supply sides of the economy. So that the relationship between defence and investment and then economic growth have been left out. Second, the pattern of externalities among sectors is difficult to be fixed at the outset. A better procedure might be to allow for a rich set of interactions among sectors in terms of externalities and then to use the data to test for the underlining pattern of externalities. Apart from that, the Feder-Ram model does not allow for reverse causality. The use of causality tests can help identify whether causation is unidirectional.

### 2.1.3 Causality Analyses

Both demand side analyses as well as the supply side analyses have not focused on the relationship of the reverse causality. Because of the essence of growth and defence and their relation ship such analyses are useful in explaining the controversial relationship between defence and economic growth. Granger causality tests can be employed to ascertain the presence and direction of causation between defence and economic growth<sup>2</sup>. The Granger causality tests indicates whether the current value of  $X_t$  is related to the lagged values of  $X$  and some other series,  $Z_t$ . If the lagged values of

<sup>2</sup> Example for Granger causality analyses with respect to the military expenditure Chowdhury (1991)Dunne and Smith(1990) Joerding (1986);Khan,2004;Federiksen and McNab (2001)

time series  $X$  and  $Z$  are better predictors of  $X_t$ , than just the lagged values of  $X$ , then  $Z$  Granger causes  $X$ . If, instead the lagged values of  $X$  and  $Z$ , then  $X$  granger causes  $Z$ . The test may be inconclusive if either no causality is uncovered or the causality in both direction. The main issue with the causality analysis is that this model will not be suitable for cross sectional analyses especially for a sample of non homogeneous category.

According to the literature survey by Todd Sandler and Keirth Hartley many of the studies of the demand side analyses, as well as supply analyses have concluded with a negative effect on economic growth. However, the Granger causality analyses have not given a clear indication of the relationship between DE and economic growth. Todd Sandler and Keirth Hartley in their survey on studies of national defence and economic growth also reported an ambiguity of the conclusions. (Sandler and Hartley1995) Neither the demand side analyses nor the supply side analyses or the Granger Causality analyses able to capture all costs and benefits of defence. The cost and benefits depend on the contextual features of individual countries and therefore, it is very difficult to identify common yard stick to measure the cost and benefits.

*Since defence can both stimulate and inhibit growth, the net impact of defence depends on the relative strength of opposing influences. If defence has a net beneficial effect on growth, then this is more apt to occur in LDCs where there are more avenues from which benefits can be derived. When building a theory to show the relationship of defence on growth, the researchers need to account for the supply side influences and the demand side factors. A full blown model is likely to be characterized by sufficiently complicated interrelationships between the defence sector and the rest of the economy, so that the net impact of defence on economic growth will be ambiguous and hence an empirical question Sandler and Hartley 1995,p202-3)*

At present the co-integration and error correction method is very popular in assessing the impact of national defence expenditure and it has been pro national defence as a public good. Wijeweera and Webb (2010) have given careful attention to the supply side analyses and the Keynesian analyses in the existing literature, and the impact of defence expenditure on economic growth of Sri Lanka have been analyzed in line with the Feder and Ram model and has concluded that the one percent increase in defence expenditure has led to 0.3 percent increase in GDP (Wijeweera and Webb 2010). The same author have used VAR as one of the best methods for time series data analysis and has forecasted the impact of defence expenditure in Sri Lanka on the basis of ten lag years, pointing out, that the defence expenditure generates a mild negative effect and later it was converted into a mild positive impact. However, how the impact of defence expenditure (as a service) gets separated from other impact is still a restriction in the analysis of economic roots of national defence. Thus, the epistemological problem raised by Chan with respect to the defence and its relationship is still valid and therefore need to strengthen the theoretical structure through studies under different issues

in different contexts. Chan has raised the issues in the following areas which he calls decomposing of the problem.

*What kind of impact? How does this impact accrue? The impact of what? On what?..... (Chan, 1985 p.410)*

Steve Chan after studying on each the issue that he has composed has concluded with the same epistemological problem that he referred at the beginning of his article.

*.....The discrepancies in these results are not easily reconciled, as they are often based on different measures and samples. An alternative and perhaps more fruitful approach would be to eschew claims of generality at the present while recognizing the complexity of the problem. This complexity suggest need to account explicitly for factors that can mediate the influence of defence spending on economic performance, the need to reciprocal over-time interaction among pertinent variables and the need to show the economic consequences of alternative combinations of policies to spend on defence and to offset the potentially adverse effect of this spending.....(Chan, 1985: 433-34).*

Steve Chan has recommended of individual country level studies rather than cross country level.

*We have probably reached a point of diminishing returns in relying on aggregate cross-national studies to inform us about the economic impact of defence spending. Instead it appears that future research will profit more from discriminating diachronic studies of individual countries.(Chan, 1985:433)*

As predicted by Steve Chan many of the studies on defence and economic growth during after the last decade of the 20<sup>th</sup> century are individual country level rather than cross-country level. However since there had been no significant changes in the methodology, the ambiguity of the conclusion remains unchanged. According to Federiksen and McNab (2001) for many countries, there is no relationship between defence and economic growth. However, the same researchers have concluded that the particular relationship between defence and economic growth in Malaysia is positive. Federiksen and McNab, (2001) in this study have used the Granger Causality and Akaike's final prediction error method. Paul Dunne and Eftychia Nikolaidou, (2001) analysed the relationship between defence spending and economic growth of Greece, Spain and Portugal by using Granger Causality and Vector autoregressive model and has come to a conclusion that except Greece in other countries military has no relationship with economic growth. According to the study there is a positive relationship between defence and economic growth in Greece. The analyses have shown that except Portugal economic growth does not affect on military. In Portugal economic growth affect on the size of defence. Finally, the study concluded the difficulty of assessing the relationship between defence and economic growth. Out of many of the studies that have carried out in the recent past Chien –

Chiang and Chun-Ping have conducted a study on "Long run relationship between defence and GDP in Taiwan" in which they have used Solow –Swan growth model – aggregate production function method combined with multivariable co-integration approach have concluded that DE boost economic growth in the long run.(Chin-Chiang and Chun-Ping,2006). As far as the methodology, and the conclusion are concerned, this particular study has been more sound than the others but still has not been able to capture the demand side variables and as a result the conclusions are subjected to questions..

The main common weakness of the individual country level studies (especially in the recent past) is the inability to address the contextual characteristic of defence and economic growth of the individual countries and disclose the reality behind the increase in DE that has been experienced by many of the countries. This is mainly because of the methodological bias towards positivist approach in which there is no room for in-depth analyses of the unique features of ND and economic growth of the individual countries. Therefore in the face of challenges of the analyses with respect to defence and economic growth as mentioned by Steve Chan and as mentioned by Sandler and Hartley, there is a need of alternative method/s to capture the unique features of the individual countries in the face of national defence, the determinants of ND, economic development and their relationships. Finally the individual country level conclusions can be generalized to reach for appropriate theoretical conclusions.

*Differences of opinion about empirical phenomena often derive from reflect, and provide the vehicle for staking out differences in epistemology methodology ideology for which the relationship between defence expenditure and economic growth also has been subjected as a social phenomena(Chan,1985:405)*

*When building a theory to show the relationship of defence on growth the researcher needs to account for the supply side influences (e.g. technology spin offs, positive externalities) and the demand side factors (e.g., the crowding out effect of investment or export) A full blown model is likely to be characterized by sufficiently complicated interrelationships between the defence sector and the rest of the economy.(sandler and Hartely ,1995:203-204)*

More over all most all studies have focused on the relationship between ND and economic growth or its related factors rather than economic development. Here, because of the narrow downing of the issue, essential elements of development such as the direct relationship with production atmosphere, self esteem, freedom, life sustenance (Todro,2002) that are linked with ND have been left out from the analysis. In spite of the narrow downing of the subject matter from development to economic growth, the accumulated conclusions as a whole are still ambiguous and inconsistent. (Hartley,2006, Sandler and Hartely 1995). Even though Sandler and Hartley have surveyed and presented the conclusions of many of the studies on macroeconomic aspect of defence under the theme of "Economic growth, development and military expenditures", there is hardly any comprehensive analysis on ND and economic development (Sandler and Hartley, 1996:200-220).

Under these circumstances, an overview study with respect to ND and economic development where economic growth is given its due consideration has become a timely requirement. Such study would essentially be an eye opener for rigorous studies of both theoretical and empirical. Under these circumstances, it is reasonable to conclude that the main reasons for the lapses in the knowledge is mainly because of the lack of comprehensive overview study on ND and economy or economic development which provide bases for in-depth studies that could bridge the gaps in knowledge with respect to ND and economic development.

### **3. Need of a New Approach to Clear Economic Roots of National Defence**

The theoretical issues of ND and economic development and the conclusions of both theoretical and empirical studies suggest that a comprehensive holistic exploratory study/s supported with repeated similar studies in different contexts would enable to reach to general explanation and clear the epistemological problem of ND and economic development. However, according to the accumulated studies on the subject, the conventional positivist method it self that have been used in many of the studies would not make conducive environment for such study (Dandker,2001).

#### **4.1 Economic Linkages of ND in the Context of Sri Lanka**

The ND service of Sri Lanka as a developing country operates in a different context compared with many of the other countries. According to Dandker (2001)

*The armed forces operate under three different contexts; 1. In the international environment where there is an external threat. 2. A threat within the domestic context.3. Operate within an international environment as international forces.*

Out of these contexts, Sri Lanka operates under “domestic context category” where the internal problems have been the major military threat. Therefore ND in the Sri Lankan context essentially becomes more complex than that of the other countries. The studies on economic aspects of ND of Sri Lanka that have been carried out are not different from those of the existing international level studies mentioned above. Grober and Gnanachelvam (1991) who have studied the economic impact of DE have concluded that the DE has inhibited the economic growth of the country because of the crowding out effect of ND on investment. According to this study the investment that has been traded out by the war expenditure, has inhibited the GDP. Giving consideration to the methodological problem of the Grober and Gnanachelvam’s study, IPS (Kelegama etl.2000) has studied the relation ship between national defence and economic growth and has come to the same conclusion. The IPS study has given sufficient attention to the cost side of defence but has ignored the benefits side of ND. Yet this study is on cost of North and East war and not on economics of ND in the context of Sri Lanka. Marga Institute also has studied in the same manner and concluded with negative effects of defence on economic growth.

All these studies have used the demand side analytical method and have given attention to counter factual growth rate scenario and interpreted as negative impact of defence but has ignored the



counterfactual scenario of extended national defence from which benefits of ND can be measured. As Hartley, (1995, p202) mentioned, in a realistic study, both the cost and the benefit side of defence has to be considered But none of these studies have given attention to the benefits side of defence. Rankaduwa and Coorey who were studied the same problem by using the supply side analysis in line with Fedder Ram model has come to a conclusion of a negative relationship, nevertheless of their attention to supply side of the economy (Rankaduwa and Coorey 1998). This study has not given attention to Granger causal relationship, demand side relationship and the direct effects of ND.

Sri Lanka as a developing country made drastic changes in the economy along with the open economic system introduced in 1977/78. However, the new economic system has failed to deliver the expected outcomes towards development. Therefore, the economy has not yet been able get its take off in the development journey. The main reason for the failure in creating necessary conditions is the “up rise of terrorism” which was intensively escalated after 1983, despite the continuous increase in DE.

The studies accumulated in the literature of defence economics including the few studies in the Sri Lankan context, are not revolutionary enough to disclose the empirical problems with respect to conflict escalation, continuous increase in DE in the face of challenges of economic development of Sri Lanka. Thus, Sri Lanka is one of the most appropriate cases for an individual country level study for ND and economic development. In this situation drawing attention to philosophical foundation of social sciences, new approaches have to be sought with innovative conceptualization of the issues.

#### **4.2 Sri Lanka’s Experience on National defence.**

In the case of Sri Lanka, the interpretation of ND with respect to the developing countries is applicable and therefore in order to identify a new frame and to test such frame work, Sri Lanka is one of the most suitable cases. As a developing country Sri Lanka is enriched with its national interest which stretches out for a considerable longer period of history (more than 2500 years) with awkward military experience. In spite of the Indian invasions in different time periods, Sri Lanka has been an independent state until the European invasion. Since then it became a British colony. During that time, the British administrators have established the Royal armed forces with sticking on multiple objectives inclusive of national interest of Britain and the Sri Lankan society. During the world wars the British armed forces were gradually improved.

After the independence, the same models of the armed forces were continued with the focus on the protection of the national interest of Sri Lanka as an independent state. In spite of the change of the prime objective of the ND, that is the shift of the protection of national interest of Britain to the protection of national interest of Sri Lanka, there has been no significant change in the defence structure of the country. The least interest on national defence until 1980s can be one of the reason for such stagnation in the structure.

After the world war II except the limited military involvements in 1958 Harthal and JVP insurrection in 1971, there had been no major military operations. Moreover, the military structure has also been failed to introduce forward looking approach with respect to the R & D of ND that enable for the defence structures to introduce necessary forward defence policies to strengthen the counter strategic measures to defeat and prevent the possible threat on national interest which had been ill-treated during under the colonial administration .

In 1971, the JVP insurrection was the first eye opener for the policy makers to think of necessary changes in the defence policy. However, the lapses in the R & D on defence have been still the missing piece in the ND. In this situation, the ethnic problem that erupted in 1980s has intensively spread within and outside the country and has been absorbed increasing amount of resources on ND. In 2009 the LTTE was defeated yet Sri Lanka could not bring down the substantially due to Socio cultural and political reasons including the Tamil issue that transformed with the intervention of Tamil Nadu and the central government of India.

Therefore, ND has not been achieved its objective to the full scale which enable to provide the guarantee of national security(NS) including the social, economic and the psychological security and to provide the protection of individual freedom of the people. In order to carry out a rigorous study on the experience of ND after the independence especially in the face of the threat on national security and the challenges of economic growth and development the following analysis can be taken as the base of such study.

### Figure 1

#### National defence in Sri Lanka in the face of north and east war and challenges of challenges of economic development

Time period	ND Exp. as a % GDP	Per capita defence expenditure (LKR)	GDP growth rate	Major security threat	Intensity of the security threat
1950 -1970	<1	<19	3.5	Mild civil disturbances	No threat
1971 - 1982	1.08	40	4.1	Mild level civil disturbances Ethnic tension	Mild threat
1983 – 1987	3.22	378	4.1	Ethnic based terror activities	Threat on national security
1988 -1990	4.15	673	3.7	Terror activities (LTTE)and IPKF appearance	National Security threat
1990 - 2002	4.27	2227	4.7	LTTE terror activities the North and East	Severe National security threat
2002 - 2004	3.08	3350	5.4	LTTE terror in all parts of the	Severe threat on

				island	national security
2005-2008	4.0	6819	6.9	LTTE terror in all parts of the island	Severe threat on national security.
2009-2011	3.8	10276	6.6	LTTE threat is not available	Recovered from security threat

Note: 1. Based on the secondary data and other empirical evidences

2. An estimation

As a developing country, Sri Lanka had been suppressed during the colonial administration and therefore, government had to look after many critical areas of socio economic and political problems such as rural poverty, welfare measures, economic disparity of the people, supply of basic needs for the people etc. Under these circumstances ND has not been given proper attention with necessary forward defence policies. At this particular point of history there had been no immediate requirement of an expansion of national defence because firstly, there was no serious threat on the government and secondly, as a member of commonwealth nations the NS of the country was guaranteed under the commonwealth umbrella of security. In this situation except the police the defence forces had to attend only ceremonial purposes. However at the end of 1960s the armed forces received funds for the strengthening of the forces. For example during this period the army received 54% increase in allocation where as the Air force and Navy received 25% and 21 % increase in allocation respectively. In the 1964 after the experience of the second military coup there was some restriction towards the expansion of ND. These disturbances also affected on the strengthening of the armed forces in identifying the necessary forward defence policies from which the Youth insurrection and the ethnic terror activities could have been controlled.

In 1971 the armed forces did not have enough strength to control the military threat. The military support of the friendly nations helped the government forces to produce sufficient deterrence against the terrorism. The smooth atmosphere after the youth insurrection can be identified as an effective role by ND against the NS threat. However still it has been failed to introduce a research and development mechanism to support forward defence policy line to prevent the possible threat and lead for efficient functioning of ND.

According to the above table the DE for the period from 1971 to 1982 it was able to maintain to the level around 1% of GDP .It is an efficient level of national economy as there was no serious threat on the government .However the scenario in which we find the failure of ND that led for ethnic war in the later years cannot be ignored in evaluating the contribution by ND from 1971-82. Thereafter ND has been gradually increased over the time. Despite the drop in DE in certain years like the time period of IPKF and the period of CFA from 1987-90 and 2002-2004 respectively. These two periods and the political decisions have been incompatible when we look at the historical development of the issue in line with social reality that can be derived from the social choice which

generally based on democratic elections.<sup>3</sup> In other periods the size of ND has been comparatively significant or with increasing trend. (Refer to table 1). As mentioned in the literature survey the expansion of ND on the one hand has contributed to the economy moderately without a serious collapse in the political system and on the other hand since ND has been not sufficiently effective and efficient, the economic growth has been hindered or lowered in comparing with the opportunities of the economy. Despite the economic policy change from the inward economy to open economy, the growth rate since 1980s onwards has been increased marginally (only up to about 1-2%). This progress has been marginal in comparing with the opportunities that could have had if the national security threat is under control.

The expansion of ND has opened an opportunity for the man power recruitment more than the other services. In the early 1980s the man power in the three services was only about 100,000 (estimated figure). This has been increased up to 275,000 (estimated figure) in 2000. If estimation is made with respect to the all types of employment including Sri Lanka police and both direct and indirect civilian employment of this figure could be the double of the estimated figure given above. Thus as a source of employment, the expansion of defence is increasingly important. When one look at the specific labour force in the defence service as soldiers<sup>4</sup> and job seekers<sup>5</sup> (unskilled or semi skill) within the defence sector, the created employment opportunities in the defence service is a relief for the economy as far as the unemployment problem is concerned.

If defence has not been able to provide employment opportunities for this portion of the labour force (the majority in the unprivileged society) whom coming within the left side of the normal curve (based on normal distribution) of the labour force as far as the skills and the human capital level is concerned. Therefore if the particular section of the labour force has been failed to get employment opportunities there would have had serious social erosion due to the pressure of unemployment and other socio economic issues.

Nevertheless of the expansion of ND, the enemy threat on the national security has been increased until to the military operations in the recent past (Starting from Mavil Aru). The terrorist's attacks including suicide blasts within government premises, public places, claymore attacks on transport vehicles etc. has been increased. (despite the moderated change due to intensive military operations after 2005). These incidents have interrupted economic activities in the economy including agriculture, industrial sector, tourism and other services. Because of the failure of the control of the terrorism the economic activities of north and east has been significantly affected and therefore the people in the above area Specifically the Tamil community with the ability and resources for adjustments, have found alternative ways for their life within the country or abroad and have left (migrated) the region. The rest of the people those who are trapped in the area are either have

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<sup>3</sup> The IPKFs arrival and CFA have neither been able to establish a constructive solution nor been able to make a favorable change in the north and east problem which is the major determinant of national defence. More over the practicing democracy does not prove that these two decisions were accepted by the public.

<sup>4</sup> The military personnel's job requirements and the discipline and the nature of the job are quite different from other services such as education, health etc.

<sup>5</sup> In the modern society the unprivileged social group with less human capital is get opportunities for employment in the military service.

become the members of the LTTE or have become helpless innocent civilians. Under these circumstances the welfare level of the population in the north and east has significantly declined with possible secondary and tertiary impact on the future generations.

How ever the contribution by ND has been able to prevent the collapse of the socio economic system and therefore there has been a moderate economic growth rate in the over role economy. The economic growth rate has been moderately increased until 2005. After 2005 economic growth rate has been increased more than that of other periods. It is the view that effective functioning of ND has been one of the reasons for such increase of economic growth.

The literature in economics of defence witnesses an inconsistency with respect to the relation ship between ND and economic development. This has been true with respect to the individual country level studies as well as in cross country studies. Because of the blurred epistemological bases of the subject matter as pointed out by Chan, the accumulated studies in the literature have concentrated on the empirical aspect of the subject matter rather than theoretical bases and therefore many of the studies have focused on the relation ship between DE and economic growth. Thus national defence as a service has not been treated as a public good but as an expenditure item and as a result its contributions has been automatically ignored. In macroeconomics, ND is one of the major economic activities of the government.

Government sector production both goods and services are part of national production. The value of government production difficult to be evaluated because of the significant features of externalities, indirect benefits etc as public goods. Under these circumstances the value of public goods is calculated on the basis of the assumption that the value equals the expenditure. According to this definition, the value of defence service as a public good equals its expenditure. Thus in analyzing ND and economic development ND should be treated as an intermediate good and should evaluate its contribution to the national economy accordingly.

When we shed the light of the findings of the accumulated literature to the experience of ND specifically to the period after 1970s as shown in the table 1, the vulnerability of the performance of the economy in the face of the expansion of ND which is a result of the north and east problem as the major determinant of national defence can be observed. There has been general view that the defence service is not effective enough as far as the challenges of the national security threat is concerned. This has been further problematic as the country witnesses a significant increasing rate of economic growth after 2005 with the view that ND is comparatively effective as far as the enemy threat is concerned. In line with the literature review and the analysis of experience of ND of Sri Lanka in the face of north and east war under the challenges of economic development while giving attention to other related factors, the following conceptual frame work has been developed. This frame work will enable to diagnose the types of contributions by ND as a public good that are important in policy consideration of the improvement of the ND, finding a constructive solution to north and east problem and to achieve economic growth and development. .

## Conceptualization of the Role of National Defence in Economic Development<sup>6</sup>

The role of ND in economic development can be viewed with reference to the input output relationship while integrating the externalities of ND which are possible in the short run as well as in the long run. The existing literature has focused only on with reference to the externalities and has developed the models to test the relation ship between ND expenditure and economic growth. The main reason for not giving attention to the direct outcomes of ND is that the difficulty of differentiating the direct outcome such as **the marginal production for the marginal increase of effective DE**

Here, in developing the conceptual frame both direct (relation ships) and indirect relation ships (out comes/ externalities) that diffused to the stake holders including the third parties will be given attention. Here it is assumed that; the country has not reached to full employment level, the ND of the particular country functions effectively and efficiently, there are no barriers for the ND to function. Finally the DE is taken as the minimum value that contributes to the GDP rather than just government expenditure.

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### <sup>6</sup> Definition of terms:

**Economic growth:** Relative increase in real GDP or GNP

**Economic development:** Improvement of the core values of life sustenance, self esteem, freedom leading to an improvement in the general welfare standard of the people.

**Product contribution:** Contribution by national defence to the GDP/GNP; 1.making necessary conducive conditions for factor productivity (refer to the red arrow) 2.net effect of spin offs and spill over/crowding effect (refer to the yellow arrows)

**Spin offs:** The benefits other than the targeted objectives that enjoyed by the society. E.g. the advantages of education and training that go to the armed forces etc.

**Spill over effects:** The advantages that extend beyond the targeted out come. The utilization of infrastructure development by the public that built for military purposes

**Employment contribution:** Employment opportunities that created through the expansion of the armed forces.

**Self Esteem Contribution:** The contribution to the self esteem of the nation through the establishment of peace and the security. The self esteem of the nation is the aggregate outcome of the individual self esteem.

**Freedom:** Individual freedom(private, economic, social psychological and political)

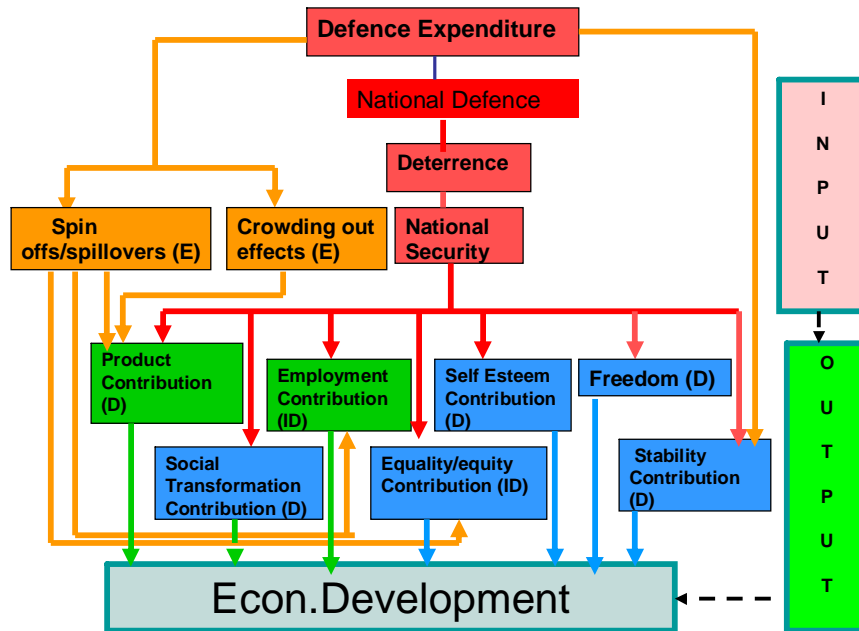
**Social Transformation Contribution:** Structures are subjected to change therefore there should be a mechanism to adjust the other things in line with the changes of the social structures. If there is such adjustment can be called a social transformation. Here the transformation should not injustice for any party.

**Equity(equality) Contribution:** The contribution to bring down the gaps in the economic standards of the people in the society

**Stability Contribution:** The potentiality of use of increase and decrease of defence expenditure and control the inflation.

Figure: 2

Analytical Frame Work for National Defence and Economic development



Note: Based on the literature and the empirical analysis of ND in Sri Lanka against the security threat Here even though the micro level and macro level analyses were not given individual attention, both micro level and macro level effects were taken into account in the final conclusions. With respect to the macro levels affects the relation ship between DE and GDP and with respect to the micro level analysis the spin off/spill over effects of increase in DE at family level and the improvement of the resourcefulness of family members have to be given attention.

According to the above conceptual frame work ND expenditure which equals the amount of military equipments, armed forces and other military structures in the military outfit of the country is taken as inputs. The defence industry is inclusive of the military forces, police, paramilitary forces and security mechanisms national security etc. Under ND the police and the paramilitary forces and private security mechanism are not usually taken into account. It includes only the armed forces. How ever in this study ND is inclusive of the ministry of national security, armed forces paramilitaries, Sri Lanka Police and used the term ND in the broader way. Firstly in the context of Sri Lanka, Sri Lanka Police and the paramilitary forces play a crucial role in the counter terrorism strategies which is the major threat on national security and secondly as far as the relative size of security out fits are concerned ND is comprised of more than 90 percent of national security allocations. Therefore in the theoretical analysis ND and NS can be considered as similar terms and ignored the theoretical deference of their definition.

Here when ND or the DE is taken as the input the deterrence which is the out come of ND is taken as the out put . The deterrence of violence that has linkages with economic growth and development as direct and indirect effects under input out put relationship and secondly there is also a linkage between DE with economic growth and development as externalities.

**Figure 3**

**Role of ND in Economic Development**

<b>Spin offs/Spillovers (Externalities)</b>		<b>Crowding out effect (Externalities)</b>	<b>Direct relationships</b>	<b>Indirect relationships</b>
Positive	Negative	<b>Negative</b>	<b>Negative (N)/Positive(P)</b>	
Increase in aggregate demand	Impact on income inequality	Diversion of skilled man power from the civilian sector to defence.	Smooth atmosphere for production (P)	Employment generation (P)
Technology Improvement in the civilian tech. Innovation of tech.	Curtail development assistance	Adverse effects on the balance of payments	Impact on the self esteem (P)	Equity Contribution (P)
Human Capital Skill Training Discipline Nutrition benefits	Militarization followed military aggression	Reduction in the public sector research and development	Socioeconomic and Psychological Security (P)	Replacement of the old buildings and other physical structures (P)
Infrastructure Development	Impact on international relationship via militarization	Reduction in education, health and other social welfare	Individual freedom (P)	Possibility of use of military personnel in the civilian sector especially in an



				emergency situation (P)
Impact on income inequality	Inflationary effects via over expenditure	Reduction in private and public savings	Social Transformation (P)	Increase in demand (P/N)
	Military expansion will leads for distortion in the nonmilitary sector/inefficiency	Reduction in private and public sector investment	Stability contribution via exploitation for macro economic adjustments (P)	Provide models for civilian sectors through the war experience (P)
		Reduction in consumption	Damage on the existing constructions (P/N)	

**Note: Based on the conceptual Framework**

In order to make a decision with respect to defence dilemma or in other words whether the DE has to be increased or decreased or continue with the same vigor will be based on the net contribution of all the factors identified in the above table. Therefore, the effects on the totality and individual entities in the economy have to be evaluated both quantitatively and qualitatively in a complementary manner in making final conclusions with regard to the national defence and economic development The Grounded Theory (GT) could be a better method (pluralistic method) in evaluation of the variables depicted in the diagram. Thus the above conceptual frame work will enable to capture all types of effects of ND and can use to evaluate ND as a public good.

**6. Conclusion**

The conceptual framework identified here is a broader approach that can be used in evaluating ND and economic development. It can be tailored to suite to the specific situation depending on the requirement. In the case of Sri Lanka the above framework is use full. As mentioned in the discussion the out come of ND can be identified as positive and negative effects or direct and indirect effects. In the overall evaluation of ND as a public good, the net out come is important. In order to get the net out come the Grounded Theory (GT) can be applied to shape the quantitative and qualitative out comes of each type evaluation of the identified variables. Finally it is recommended to test the conceptual frame work by using the empirical data in the context of Sri Lanka and to repeat the same frame work for other countries to repeat the model with empirical evidences.

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