

Analysis of the Global Defence Budget and Its Economic, Social and Environmental Impacts

Namya Manchanda^{1*}, Ananya Kalra¹, Harshul Singh², Susri Padhi³

¹Lady Shri Ram College for Women, University of Delhi, New Delhi, India

²Ramjas College, University of Delhi, New Delhi, India

³Shri Ram College of Commerce, University of Delhi, New Delhi, India

*Corresponding Author

Namya Manchanda

Article History

Received: 09.06.2021

Accepted: 14.07.2021

Published: 24.07.2021

Abstract: The global defence budget forms a very important aspect of a country's spending and its whole mechanism. We observe an increasing trend in the global defence budget. This paper aims to examine this trend, the reasons for the same and deeply analyse the impact on the economy, society and the environment of a country. Data extracted from the World Bank database for three countries - the US, India and Nepal have been used to understand the economic impact of these trends by performing simple linear regression analysis, taking military expenditure as the independent variable and Gross Domestic Product (GDP) as the dependent variable. The paper also elucidates the issue of terrorism and the dominance of the developing countries in the arms race leading to unwanted social impacts on various government sectors, crowding out their allocation of resources. In conclusion, the paper talks about the negative aspect of the rising global defence budget and some policy suggestions such as peace economy to serve as alternatives because a war not only brings atrocities but the aftereffect of destruction is unbearable.

Keywords: Global Defence Budget, Regression Analysis, Military Expenditure, Gross Domestic Product, Terrorism, Peace Economy.

1. INTRODUCTION

According to Stockholm International Peace Research Institute (SIPRI), military expenditure includes all current and capital expenditure on the armed forces, including peacekeeping forces; defence ministries and other government agencies, if any, engaged in security projects; paramilitary forces and military space activities. In other words, a defence budget is the aggregate of financial resources dedicated by a state to raise and maintain the armed forces or other essential items of a country for military and defence purposes. Military expenditure of a country often depicts the country's perception of terrorism and the likelihood of threats against it.

The defence budget forms a very important part of the annual budget allocation of all the countries across the world. It reflects upon the country's ability to fund military activities and many factors determine the size of the defence budget allocation each year. Talking about the recent trends, a report by the Stockholm International Peace Research Institute (SIPRI) states that the US, China and India were the world's top military spenders and their military spending went up compared to 2019, even during a pandemic year. Whereas, in total, the global military expenditure rose to \$1981 billion last year, an increase of 2.6 per cent in real terms from 2019. The global defence budget has been on a rise for more than a decade and this is all a reflection of a changing world and the return of state-on-state competition. There are several reasons for the same. To name a few, the unstable international security environment - Russian behaviour is one factor driving the increase in defence spending in NATO countries or regions rising levels of GDP due to which overall defence spending in Asia has increased by 50% in a decade.

India's overall defence spending has witnessed an average growth rate of 9% in the last 10 years and for the year 2020-21, the defence budget has been increased to Rs 4.78 lakh crore as against last year's allocation of Rs 4.71 lakh

Copyright © 2021 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

crore. India's tensions and rivalry with both Pakistan and China are among the major drivers for its increased military spending. In terms of allocation of the defence budget in its subparts, the Indian Army, with its overwhelming size, continues to be the biggest stakeholder. The Indian defence budget incorporates many noteworthy changes that indicate a much-needed course correction towards more efficient use of finances. For the year 2020-21, while the budget allocated to defence pensions reduced by 13.4%, capital outlay on defence services, i.e. funds used to buy new equipment and aid the military's modernization, has increased by 18.75%.

	Budget 2020-2021(in INR crores)	Budget 2021-2022 (in INR crores)	Percentage Change (%)
Defence Budget	4,71,378	4,78,195.62	1.4
Defence Pensions	1,33,825	1,15,850	(-) 13.4
Capital Outlay – Total	1,13,734	1,35,060.72	18.75
Capital Outlay – Army	32,392.38	36,481.90	12.62
Capital Outlay – Air Force	43,281.91	53,214.77	22.95
Capital Outlay – Navy	26,688.28	33,253.55	24.6

The government has set its priorities on how it wants to use the limited resources at its disposal to shore up and augment the country's military strength, by planning to spend more on new heavy and medium vehicles for the Army, aircraft, aero engines and naval fleet for the Navy and land for the Air Force. Undoubtedly, the ongoing border dispute with China and the challenges of a two-front theatre has influenced these allotments.

One of the direct consequences of allocating a significant amount of money to the defence budget, is an increase in capital expenditure and accumulation of weapons, ultimately leading to 'Arms Race'. Arms race refers to a pattern of competitive acquisition of military capability between countries across the world. Examples of such arms races include India-Pakistan, Israel-Arab states, Greece-Turkey, and Armenia-Azerbaijan. The Cold War nuclear arms race between the United States and the Soviet Union is another example of a 20th-century arms race.

The instinct for conquest, territorial expansion and domination among countries is *primaeval*. There seems to exist an aspect of military dominance by developed or developing countries; primarily realised through occasional wars and "peacekeeping" interventions, a technologically superior arsenal of weaponry and military intimidation instead of administration of the occupied territory and military conquest. The dominance of high-income economies forces comparatively low-income economies to intensify their spending on artillery and weapons due to constant fear, threats and intimidation.

If we were to analyse the impact of the arms race or terrorism, it just leads to negative consequences. Countries are spending a large amount of money to cancel out each other's efforts and what they ultimately end up doing is wasting all the money which adversely impacts the economy. Not only this, the number of lives lost and damage done to the infrastructure of the country is irreparable. But despite the negative impacts, nations are increasingly engaging in arms race and spending in militarisation. This very dilemma that we continue to face today - "whether the conflict is a prerequisite for peace can also be articulated as whether conflict and peace can be disentangled." Charles Tilly, a renowned sociologist argues that the rising need for defence and the making of the nation-state are inextricably linked with each other. This internal pacification of states and their external brute violence is for no good. It can be argued that, if we want a durable peace, "built on something other than an arms race", we need to consider how to construct societies based on something other than the nation-state security and its monopoly of violence. It is very ironic to acknowledge that our realisation of security comes from the progress of weaponization and increased militarism, and, yet still in the end this objective has failed to serve its very essence.

In the paper, we try to analyse the impact of the increasing global defence budget and arms race on the economy, society as well as on the environment. We use regression analysis to understand the impact of military expenditure on the GDP. The next section presents a literature review of the studies which have been referred to in producing this research. Then the methodology is explained followed by the interpretation of the regression result. In the next section, the paper extensively mentions the economic, social and environmental impacts. In conclusion, the paper talks about some policy suggestions.

2. LITERATURE REVIEW

Korkmaz, Suna. (2015) in her research explores the effect of military spending on economic growth and unemployment in Mediterranean countries. They argued that higher military spending implies a lower level of private investment and domestic savings, and lower consumption due to lower aggregate demand. They specifically studied ten

Mediterranean countries using the annual data of 2005-2012. Panel data analysis was used as a method. Forecasts were made with Stata 12. They also provided few policy implications on why countries should create a more peaceful environment, decrease their defence spending and shift their investment resources to other sectors which will ensure their economic growth.

Snider, Lewis W. (1990) examined the political dimensions of military spending of Asia concerning debt service in Southeast Asia. He studies how in Third World countries, the impact of military spending cannot be understood separately from the political attractiveness of external borrowing. He states many Third World countries used much of the borrowed capital to finance current budget deficits, government consumption and arms imports. His work brings out many qualitative arguments that rising defence budgets brings upon a nation. To carry out his research he used a data analysis pool time series data set consisting of 35 countries, extracted from World Bank debt distressed countries and other empirical observations.

Gyimah-Brempong, K. (1992) in his study “Do African Governments Favor Defense in Budgeting?” explores the effects of defence budgeting on less-developed nations. The paper uses a methodology developed by Hicks and Kubisch and data samples from forty sub-Saharan African countries to investigate the dynamics of defence budgeting. He found that African governments consistently favour defence in the allocation of foreign exchange, and the pattern of allocation doesn't vary among the west-central East and Southern sub-Saharan Africa. He argues that African defence forces should be redirected to be used for development purposes rather than as a fighting organisation.

Hartley, Keith. (1955) in his article on “Defence and the Environment: An Economic Approach” analyses the economics and politics of externalities and concludes some of the environmental costs of disarmament. For economists, the environmental effects of defence are a neglected and under-researched topic. This article provides a conceptual framework for understanding the economic concerns surrounding the environmental implications of defence spending and military activity of the armed forces. The potential that defence has good externalities is frequently overlooked, as critics focus on its negative economic and environmental consequences.

T. Rahman and Siddiqui. (2019) in their research on “The Effect of Military Spending on Economic Growth in the Presence of Arms Trade: A Global Analysis” study whether the economy grows with the rise of military spending or vice versa. Their research work comprises the effect of various independent variables including military spending, on economic growth and per capita income over 85 countries over a time frame of twenty years i.e. from 1998 to 2017. The GMM technique used to determine the relationship indicates that military spending has a negative effect on GDP on its own, but when it is accompanied by arms exports, it has a positive effect on GDP in both models. As a result, in the most advanced model, it is clear that arms exports were not only positive for GDP level and growth, but they also made military expenditures more beneficial to the economy.

Tiwari, Aviral. (2010) in “Defence Expenditure and Economic Growth” explored that the major goal is to look at the direction of causality between economic development and defence spending in both a static and dynamic setting. The author discovered a bi-directional causality between GDP and defence expenditure using VECM analysis in the Dreger model, unidirectional causality from GDP to merchandise trade and gross domestic savings to merchandise trade, and no causality from any of the test variables to gross domestic savings in this study.

3. RESEARCH METHODOLOGY

The study is based on secondary data. To understand the economic impact of the Global defence budget, econometric analysis has been done using simple regression models for three countries - USA, India and Nepal. The three countries selected include a developed, a developing and one underdeveloped country to understand the relation between GDP and military expenditure over the years. Time-series data for 20 years for all three countries have been taken from the World Bank data source. The data for both variables is in US dollars.

The ordinary least square method under the Classical Linear Regression Model is used for regression analysis where GDP is taken as the dependent variable and military expenditure as the independent. Testing of the model as well as for coefficients is done at 5% level of significance. Excel and R Programming have been used for the analysis. The CLRM assumptions of linearity in parameters, random sampling and no perfect collinearity have been satisfied and then the regression results have been presented and analysed.

A qualitative approach is used to understand the social and environmental impact of rising global defence budget. Several reports by the Stockholm International Peace Research Institute (SIPRI), OECD and the UN are analysed for the same.

4. RESEARCH OBJECTIVE

The main objectives of this research study are:

- To understand the concept of the global defence budget and trends across the world.
- To highlight the nature of the relationship between military expenditure and GDP growth rate of several countries and also enumerate the concept of opportunity cost imposed by military expenditure.
- To analyse the social and environmental impacts of the rising global defence budget in order to provide policy recommendations towards achieving global peace.

5. RESULTS AND DISCUSSION

5.1 Regression Analysis and its Interpretation

Table-1: Regression Analysis between Military Expenditure and GDP from 1999-2019

Statistics → Country ↓	Multiple R	R- Squared	Coefficient Value	Intercept Value	P-value of Coefficient
USA	0.8065207089	0.650475654	19.018251	3.9693E+12	1.00632E-05
India	0.995567282	0.991154212	41.9706686	-1.25381E+11	5.65709E-21
Nepal	0.980244719	0.960879709	62.666933803	586408533.7	7.81E-15

The US has the highest military spending worldwide in 2020. As observed through the regression analysis, there exists a positive relationship between GDP and military expenditure of the US from 1999-2019. For every \$1 increase in military expenditure, the GDP of the country increases by \$19. An R square value of 65% illustrates that the defence expenditure plays a major role in terms of the GDP of the country.

According to the regression analysis, India has a fairly strong positive relationship between the defence budget and GDP. The country's GDP depends heavily on the defence expenditure as it has the highest R square value of approximately 99%, among all other countries taken into consideration. With an increase of \$1 in military expenditure, the GDP of the country surges by \$42. Due to persistent border tensions corresponding to the country's bilateral relations with China & Pakistan, it is imperative for the country to maintain a strong security system and expand its military control.

For Nepal as well, we observe that there exists a positive relationship between GDP and military expenditure for the past 20 years. Such a high R squared value of 96% depicts that military expenditure plays a very important role in the determination of GDP for Nepal. According to this model, with an increase in military expenditure by \$1, the GDP will increase by \$62 approximately. Even though Nepal is an underdeveloped nation. The defence budget has been quite a significant part of the annual allocation of funds by the Nepalese government, The Royal Nepalese Army almost doubled in size in 2001–2005. The 6.7 per cent rise in military spending in 2005, which is the highest till date, is attributable to Kathmandu's efforts to further bolster its offensive against the rebels. While spending on non-productive sectors, the Nepalese government has helped the economy to grow indirectly through improved infrastructure, human capital capabilities, etc.

5.2 Impact

5.2.1 Impact on the Economy

Every policy of the government or any amount of money spent by the government has an important impact on the economy of the country which needs to be kept in mind by the government while making decisions. Similarly, the decision of increasing the military budget by various countries has impacted their economy.

The impact of the global defence budget on the economy is a very debatable topic. A lot of research has been done in this field and very different outcomes came to the surface. The above-stated regression analysis depicts a positive relationship between the GDP, which has been taken as a measure to analyse the impact on the economy, and military expenditure for all three countries. Economic theory suggests that military spending can lead to some positive effects on economic growth through a Keynesian-type expansion whereby an increase in aggregate demand results in increased output and employment by generating short-run multiplier effects and higher growth rates. A number of studies have examined the effect of higher defence spending on economic growth in developing countries and give many reasons for the same. Firstly, expenditure on the military sector can create a positive externality for other sectors in the economy. Import of state-of-the-art technology in the form of arms and ammunition, missiles, fighter jets etc. can be utilized in the production of civilian goods as well. Secondly, military expenditure leads to infrastructural growth as a prominent amount of the military budget is spent on the development of roads, railway tracks, etc, which increases the productive capacity of different sectors. Thirdly, military spending also improves human capital through education and vocational

and technical training. Most importantly, it leads to a sense of security as spending more on the military sector can increase the internal and external security in the country, which helps to improve the trade and investment climate for domestic as well as foreign investors.

Some studies suggest that there is no causal relationship between military expenditures and economic growth in either direction whereas some talk about the negative impact of military expenditure on the economy.

As believed, there is always a direct relationship between the defence budget and Gross Domestic Product (GDP). The classical school of thought relates military expenditure and the economy through investment. A higher level of military expenditure will lead to a rise in the interest rate and ultimately it will crowd out private investment. They believed that military expenditure retards economic growth as it leads to lower investment, lower savings and lower consumption due to a fall in aggregate demand. But this holds true only when a country goes to war, the surge of government spending as investments into war-related sectors pilot to short-term economic growth. However, these yields are generally short-lived; affecting only certain war-related industries. Moreover, the long-term economic cost of war including human loss, infrastructural loss, a decline in the working population, uncertainty and a rise in debt is terrifying. Thus, there might not always be a positive relationship between the two. Higher government spending on defence can lead to a decline in the GDP of a nation. When analyzing all countries together, the findings show that over 20 years, a 1% increase in military spending decreases economic growth by 9%.

According to military expenditures data from Stockholm International Peace Research Institute (SIPR), India has witnessed a steady upward trend in defence expenditure. According to its research, the five largest spenders were the United States, China, India, Saudi Arabia and Russia in 2019. Together, these countries made up around 60% of global military spending. Adopting stringent military strategy is majorly because of the regional tensions that have been rising globally.

Figure 1 shows the amount of military expenditure (% of GDP and General Government Expenditure) of the three countries under analysis viz. the United States, India and Nepal from 2001-2019. (Data from World Bank)

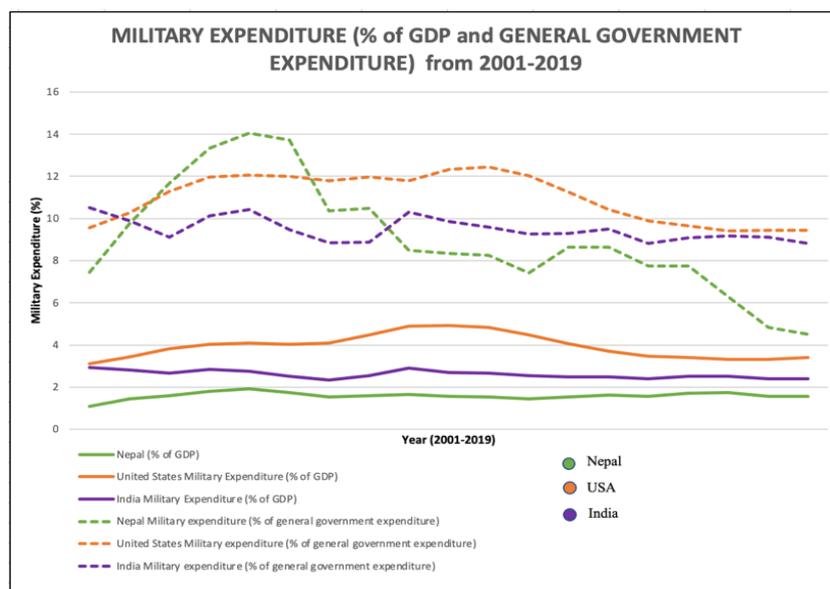


Fig-1: Military Expenditure (% of GDP and General Government Expenditure) of the US, India and Nepal from 2001-2019

Source: World Development Indicators

Every dollar spent on the military is equivalent to a dollar not being spent on other public services, especially for developing and under-developed countries. Capital being finite, spending in one sector means less money being spent on other equally relevant sectors. There is an opportunity cost to every expenditure as explained by the “Guns and Butter curve”. There is an economic manipulation of any industry that the defence depends on as resources are deflected to create better military weapons. All of these costs are imperative for a nation to hold in order to defend itself. The government has a fixed amount of budget. If it increases its share of the military budget then it is definitely decreasing the amount that could have been allocated for alternative sectors like public infrastructure, research and development, healthcare, public education, etc. A decrease in the budget allocation to the alternative sector negatively impacts the economy in a number of ways namely lower production level, lower employment rates, etc. The economic cost of

military spending by some countries is included in the national debt and in a dislocation of potential jobs from the private sector to the public sector. Although military spending does produce jobs, spending in other sectors such as the public infrastructure could produce comparatively more jobs. Evidently, nations have to give up some butter to have guns. Often a strong military force is considered a necessity for a nation, the size of the military can be disputed but its existence cannot. The trade-off between public spending and military spending is distressing. Thus, every extra dollar spent above the necessary level depicts the sectoral opportunity cost of public spending.

Government spending done by lending constitutes a major portion of the national debt due to limited capital. Spending exceeding revenues results in a deficit, adding to the national debt. A ballooning national debt has a viable impact on the citizens. As the debt grows, the expenditure on interest rises and the cost of borrowing grows due to the added risk that increased debt represents. In theory, an increased debt will eventually hinder economic growth and drive taxes higher.

5.2.2. Impact on the Society

The modern state model is structured on the concept of state security from external threats that were assumed to be predominantly military-combat in nature. This idea of military cum security was based on a realist derivation of world politics that was premised on the assumption of the fact that states exist in an 'anarchic' world, and duly demands the possession and consolidation of military force to resist attacks from other states. But in the contemporary era, this idea of state sovereignty has been represented by the nuclear power that any state possesses and has become a pride symbol for all. This whole 'military-security structure' operates under the veil of nationalism. However, do the rising costs to maintain this whole structure pose a threat to the socio-economic paraphernalia of the nation, is the question to be answered.

This surge in the arms race and eventually defence budget around the globe is quite alarming. The incentives, a state should be putting in social and infrastructural sectors, are being highly invested in developing more and more militarised services and purchase of arms equipment. The debate over how military spending impacts a country's socio-economic conditions has been fiercely argued. This exponential increase threatens the social conditions and most importantly the human security of all nations. In these circumstances, the loss of combatant and civilian life, material, and the technological resources required by military spending is likely to be very costly and also comes at the stake of future sustenance of the society. The monetary cost of global military spending is so vast that they have assumed a sort of deadening familiarity. Expenditure made on military goods and services is a form of consumption requiring resources that could otherwise have been used in civilian society for its overall social development. Yet such expenditure has failed in its very objective of buying "security", it "crowds out" government spending in other crucial social sectors and developmental projects.

In many developing countries, the advancement of military "security" increases human misery. The military in this context has become ominous. This rapid growth and expansion of military spending across the globe seem to be concentrated on the "procurement" of weapons where every state is running blindly in the arms race, though the costs of military competition are qualitatively and quantitatively different in these countries. But this fact is undeniable that government revenues used by both the Global North and Global South could have been spent on health, education, societal welfare and human security by ensuring affirmation of women and marginalised sections of the various societies.

This analysis is reflected by the following research: Fan, H.; Liu, W.; & Coyte, P. C. (2018). Do military expenditures crowd out health expenditures? Evidence from around the world, (Defence and Peace Economics) shows that when military spending increases by 1%, spending on health decreases by 0.62%. This trade-off is more intense in poorer countries, where a 1% increase in military spending results in a 0.962% drop in health spending. (When Countries Increase Their Military Budgets, They Decrease Public Health Spending, 2019).

Maya Heighway Sekine argues in her research on rising Turkey's military expenditure that increased defence budget can adversely affect the social and human development trajectory of a nation. It widens the income disparities and social inequalities. Government budget allocation has historically prioritised the needs of the defence and military over any other department of administration at the cost of depriving social sectors. This unequal distribution of resources implies foregoing allocation to sectors crucial to sustainable human development such as health, education, insurance, gender development, social-culture tribunal management and others. This represents an opportunity cost in terms of social expenditure and quality of living, a trade-off that is way darkening for the people of developing countries. Because the public financed institutions are heavily affected, as a post chain effect this whole process threatens the population's health and individual well-being and poses a serious concern for the most vulnerable who are in need of healthcare services, people who live below the poverty level? Eventually, the social disparity widens.

As per the comparative analysis of rising militarism, it has been observed that more incentives allocation to Defence Budget, affects the agriculture sector of nations and hence affecting the “quality of life” of individuals involved in the primary sector in all developing nations like that of Brazil and India, which are predominantly associated to the primary sector.

A military expansion that is concentrated in the procurement of advanced weapons and military research is also likely to reduce the scope of future economic growth. In developed and developing countries where there are market economies or centrally planned economies, military spending appears to reduce the investment in the productive capacity of the essential public facilities such as hospitals, schools and other secondary-tertiary services which require infrastructure. Thus, this military-defence structure imposes a heavy burden on polarised economies whose labour force is growing slowly, creating a bleak precarious future in the social as well as the economic aspects around the globe.

5.2.3. Impact on the Environment

The 17 Sustainable Development Goals (SDGs) of the UN's 2030 Agenda for Sustainable Development United Nations General Assembly in September 2015. They set a lofty goal of ending all forms of poverty, combating inequality, promoting unity, and addressing pressing environmental problems while ensuring that no one is left behind. The United Nations Development Programme (UNDP) has estimated that redirecting just one-quarter of developing countries' military expenditure could have provided the additional resources to implement most of the year 2000 programme: primary health care for all, immunization of all children, elimination of severe malnutrition, provision of safe drinking water for all, universal primary education, reduction of illiteracy, and family planning.

While private entities such as businesses and non-governmental organizations (NGOs) have been urged to participate in the implementation of the SDGs, it is the responsibility of national governments to drive this change. The budgetary allocation is a critical component of advancing the SDG agenda. The SDG India Index, along with the budgetary mandate, should serve as a reminder that well-being targets can be achieved with deliberate policy and action on the ground. Additionally, military spending and its reduction should also be examined as a contribution to reducing tensions and minimizing armed conflicts; and at the same time, as we have argued, it should be considered as a tool to fund development efforts. Today SIPRI estimated that global military expenditure in 2015 was \$1676 billion, about 2.3% of the world's total Gross Domestic Product (GDP). Such increased levels of spending frequently raise questions about the military's 'opportunity cost,' or the possible civilian uses of such resources that are wasted. If the money is put to more particular purposes, it could do more. How far does this money go toward achieving the UN's Sustainable Development Goals, in particular? (SDGs) Furthermore, over-militarization tends to exacerbate regional tensions, potentially leading to an arms race and impeding the countries and its neighbours' long-term growth. Civil society activists often identify high levels of military spending as a significant source of wasted money that could otherwise be diverted toward human needs. The Global Campaign on Military Spending (GCOMS), for example, has called for a global reduction of 10% in military spending, with resources redirected to development purposes.

How well will reductions in global military spending help achieve any of the SDGs if the money saved were put to good use? Here are a few examples, along with estimates versus actual military expenditure levels.

- According to a 2015 OECD report on climate finance, a number of high-income developed countries have pledged to raise aid to developing countries to \$100 billion a year by 2020 to fund green technology and to help deal with the consequences of climate change (SDG 13). This amounts to 8.3% of high-income developed countries' military spending in 2015.
- A 2015 report from the UN Food and Agriculture Organization suggests that eliminating extreme poverty and hunger sustainably by 2030 (SDGs 1 and 2) would require an estimated additional \$265 billion a year on average (2013 prices). Of this, \$89–\$147 billion would need to come from public funding, putting total annual public spending requirements at \$156–214 billion (2013 prices). This amounts to 9.5–13% of global military spending in 2015.
- The 2015 Education for All Global Monitoring Report found that providing universal primary and early secondary education of adequate quality by 2030 (SDG 4) would require an additional \$239 billion a year in spending (2012 prices). Much of this could come from countries' domestic resources, with donor countries providing the rest. The exact amount donor countries would need to provide depends on low and middle-income countries' education spending over the next 15 years. If education spending as a percentage of GDP continues to increase in 2015–2030, the report calculates \$22 billion will be needed on average each year. If education spending as a share of GDP only carries on at today's levels, the amount required increases to \$52.5 billion a year. This is 3.2% of global military spending in 2015.
- A 2015 report by the Sustainable Development Solutions Network found that achieving the SDGs in health, education, agriculture and food security, access to modern energy, water supply and sanitation, telecommunications

and transport infrastructure, ecosystems, and emergency response and humanitarian work (SDGs 2, 3, 4, 6, 7, 9, 11, 13, 14 and 15), including additional sums to allow for climate change mitigation and adaptation, would require further spending from public sources of \$760–\$885 billion a year between 2015–30 (2013 prices). This amounts to 46–54% of world military spending in 2015

- According to the findings of a study by the Bonn International Centre for Conversion (BICC), a general reduction in the means for violent conflict resolution increases the security of all. (BICC, Global Militarisation Index)

6. CONCLUSION AND POLICY RECOMMENDATIONS

An observation over the years shows that the defence budget has never been ready to sustain its actual expenditures. The sport of catch up has gotten worse with experts remarking that this gap between allocations and requirements has risen steadily over the last decade. The resources which could be implemented in building hospitals, academic institutions were blatantly over-exhausted for acquiring western weapon technology. Such decisions cause economic recessions, and also increase national debts in the case of underdeveloped economies.

For any country looking forward to enhancing its human development - the quality of life of the citizens should be predominant, hence, investing in increasing the defence budget should be off the priorities. Security from threats may also be countered by a nation's diplomatic economic and social advancement. The good thing about defence spending on growth has significant policy consequences, particularly for developing countries. Security, fiscal, and political policies all play a task in determining the extent of defence spending required to keep up a secure environment.

The novel coronavirus induced pandemic has shaken the healthcare and infirmity institutions of each country with a high number of individuals losing their lives. It's very crucial for each nation to take preventive measures to mitigate the impact of such a crisis instead of building ammunition. More monetary incentives should be made within the social sector as in times of crisis; it's this area that each nation needs foremost to help its citizens. The government may decide to invest in national infrastructure or banking, pay down their national debt, or lower the tax burden on their population.

The wide range of policies aiming at transformation demonstrates how this set of reforms necessitates changes in the political, economic, and social domains, placing war economy transformation as a complex yet intrusive project. The use of the military in transformation is further questioned by the fact that militaries are often themselves part of the war economy. International military actors have also been known to become enmeshed in political economies of war, contributing to illicit economic activities, either directly or indirectly.

Reforming the security sector is one part of the process. Reforming the security sector, as well as demobilization, disarmament, and reintegration (DDR), is viewed as critical to the transformation of the war economy. Former combatants are thought to be discouraged from laying down their guns and following through on peace plans due to the financial benefits that these economies can provide. This policy alternative is founded on the assumption that if the financial rewards of war outweigh the financial benefits of peace, combatants will choose to continue their armed struggle.

Many conflict economies are international, and earnings from these activities are transferred through global financial networks, necessitating more monitoring and supervision. As a result, it has been proposed that the Financial Action Task Force (FATF) on money laundering be used to flag transactions that may be linked to the sale of conflict commodities.

Using military tactics also increases the risk of civilian fatalities. Political or physical security is being pursued at the price of human security, with innocent civilians caught in the crossfire between the military and those involved in the drug trade. This is linked to an increase in human rights violations, which often coincides with military engagement.

Some of the policy suggestions for the countries are

The defence budget can be reduced by reducing the size of existing force units by implementing various joint and sub-organizations and establishments as downsizing. At the same time, the service tenure of army officers should be extended up to the ages of 45-50. This will save the monetary resources that are invested at every year round for new recruitment and efficient employment of officers to ensure a good occupational age of work.

- The emphasis should be on the creation of joint logistics infrastructure and this could lead to immense monetary savings. To enhance ammunition reserves and overcome shortfalls in capacities, the army administration should reduce its planned revenue expenditure.
- Also, alternate means of exchanging surplus defence land instead of constructed amenities must be considered to monetize the surplus defence land in favour of public good, freeing this expenditure from a limited budget.

- For a country to move towards sustainable development, only reallocating about 10% of global military expenditures would be sufficient to make significant progress on some important SDGs, assuming that such monies could be efficiently channelled toward these goals and that major impediments like corruption and conflict could be addressed.
- The armed forces must push for the induction of self-manufactured equipment. This will, apart from saving valuable foreign exchange, will enhance job opportunities in the country.
- There should be developed international disarmament laws, limiting the production and usage of inhumane weapons through cluster ammunition and improving confidence between states.
- The keenness on peace economics is valid as military expenditure is one of the major concerns for nations, irrespective of its development status. By pulling out resources from the most productive sector to ensure security could affect the annual net effect on the economy and overall development. Also, overlooking the security agenda to maximize the net outputs of some productive sectors could also make the economy unstable.
- Undeniably, peace and long-term sustainable economic development issues are on the prime agenda of all countries globally. According to conventional logic, military advancement in any manner is an economic encumbrance.
- Without strong international collaboration to minimise political pressure, military expenditures can be driven more and more across regions to safeguard its security.

7. REFERENCES

- Abdel-Khalek, G., Mazloun, M.G., & El, Zeiny, M.R.M. (2020). "Military expenditure and economic growth: the case of India", *Review of Economics and Political Science*, 5 2, 116-135
- Abdel-Khalek, G., Mazloun, M.G., El Zeiny, M.R.M. (2019). Military expenditure and economic growth: the case of India. *Rev. Econom. Political Sci.*, 5(2), 116-135.
- Acheson, R., & Fihn, B. (n.d.). Military spending. *Reaching Critical Will: A project of the Women's International League for Peace and Freedom*.
- Antonakis, N. (1997). Military expenditure and economic growth in Greece, 1960-90. *Journal of Peace Research*, 34(1).
- Archer, C., & Willi, A. (2012). Opportunity costs: Military Spending and the UN's Development Agenda A view from the International Peace Bureau. *International Peace Bureau*.
- Aziz, M. N., & Asadullah, Mohammad, N. (2016). Military spending, armed conflict and economic growth in developing countries in the post-cold war era. *CREDIT Research Paper*, No. 16/03, The University of Nottingham, Centre for Research in Economic Development and International Trade (CREDIT), Nottingham.
- Bagchi, A. (2006). India's Defence Budgeting: Lessons Not Learnt. *Economic and Political Weekly*, 41(52), 5321-5324. Retrieved June 5, 2021, from <http://www.jstor.org/stable/4419077>
- Ball, N. (1983). Military expenditure, economic growth and socio-economic development in the Third world. *Nordic Journal of Latin American Studies*, Vol. XII: 1-2, 5-20.
- Batchelor, P., Dunne, J. P., & Saal, D.S. (2000). Military spending and economic growth in South Africa. *Defence and Peace Economics*, 11(4).
- Benoit, E. (1972). Growth effects of defense in developing countries. *International Development Review*, 14.
- Bonn International Centre for Conversion (BICC), Military spending and the UN's development agenda.
- Deger, S., & Sen, S. (1990). Military security and the economy: defence expenditure in India and Pakistan. *The Economics of Defence Spending*, Routledge, London and New York, NY.
- Deger, S., & Smith, R. (1983). Military expenditure and growth in less developed countries. *Journal of Conflict Resolution*, 27(2).
- Food and Agricultural organisation. (2015). *Achieving Zero Hunger: Combining social protection with pro-poor investments*.
- Glaser, C, L. (2000). The Causes and Consequences of Arms Races. *Annual Review of Political Science*, 3.
- Golan, G. (1997). Militarization and Gender: The Israeli Experience. *Women's Studies International Forum*
- Gyimah-Brempong, K. (1992). Do African Governments Favor Defense in Budgeting? *Journal of Peace Research*, 29(2), 191–206.
- Hartley, K. (1995). Defence and the environment: An economic approach. *GeoJournal* 37, 277–282
- Heinecken, L. (2015). The military, war and society: The critical need for sociological engagement. *Journal of Military Studies*, 43(1), 1–16
- Hong, L. F., Wei, L., & Peter, C. Coyte. (2018). Do Military Expenditures Crowd-out Health Expenditures? Evidence from around the World, 2000–2013, *Defence and Peace Economics*
- Jaaved, A. (2020). Adverse socio-economic impact of India's rising military expenditure. *Modern Diplomacy*.
- Kaufman, J.P. *The Social Consequences of War: The Social Development of Four Nations*. *Armed Forces & Society*.

- Korkmaz, S. (2015). The Effect of Military Spending on Economic Growth and Unemployment in Mediterranean Countries. *International Journal of Economics and Financial Issues*, 5. 273-280.
- OECD. (2015). Report on Climate Finance.
- PALME, O. (1982). Military spending: the economic and social consequences. *Challenge*, 25(4), 4-21
- Pant, H. V. (2021). India's Defence Budgeting Strives to Chart a New Course. Observer Research Foundation.
- Paul, R. Gregory. (1974). Economic growth, US defence expenditures and the Soviet defence budget: A suggested model, *Soviet Studies*, 26:1, 72-80
- Pradhan, G. (2019). Nepal's Civil War and Its Economic Costs.
- Rahman, T., & Siddiqui, D. A. (2019). The Effect of Military Spending on Economic Growth in the Presence of Arms Trade: A Global Analysis. SSRN
- Raju, M.H., Ahmed, Z. (2019). Effect of military expenditure on economic growth: evidences from India, Pakistan and China using cointegration and causality analysis. *Asian j. Ger. Eur. stud.* 4, 3.
- Sekine, M. H. (2020). Increasing Turkey's Military Expenditure At What Cost. Australian Institute of International Affairs.
- SIPRI, Yearbook. (2020). Armaments, Disarmament and International Security. Oxford University Press.
- SNIDER, L. (1990). The Political Dimensions of Military Spending and Debt Service in Southeast Asia. *Contemporary Southeast Asia*, 11(4), 278-305.
- Sustainable Development Solutions Network. (2015). Investment Needs to Achieve the Sustainable Development Goals: Understanding the Billions and Trillion.
- Tashjian, Y. (2021). How can Armenians overcome their national crisis?
- The Global Campaign on Military Spending (GCOMS), Defund the military.
- The Stockholm International Peace Research Institute (SIPRI), the opportunity cost of world military spending.
- Tiwari, A., & Tiwari, A. (2010). Defence Expenditure and Economic Growth: Evidence from India. *Journal of Cambridge Studies*
- UNESCO. (2015). The Global Monitoring Report.
- Unicef. (1996). The state of the world's children.
- Wessells, M. (1998). Children, Armed Conflict, and Peace. *Journal of Peace Research*, 35(5), 635-646.
- When Countries Increase Their Military Budgets, They Decrease Public Health Spending. (2019). *Peace science digest*
- Witt, J. (2014). Studying the Causes, Conduct, and Consequences of War: The Society for Military History. *Tractus Aevorum*.

CITATION: Namya Manchanda, Ananya Kalra, Harshul Singh, Susri Padhi (2021). Analysis of the Global Defence Budget and Its Economic, Social and Environmental Impacts. *South Asian Res J Human Soc Sci*, 3(4): 166-175.