ISSUES AND CHALLENGES TO THE COMMERCIALIZATION OF DEFENCE PRODUCTION – A CASE STUDY OF POF

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Issues and Challenges to the Commercialization of Defence Production – a Case Study of POF

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ABSTRACT

Title: Issues and Challenges to the Commercialization of Defence Production – a Case Study of POF

This research work aimed at exploring the possibility, ways and means of transforming one specific segment of defense industry (sports and protection arms manufacturing) into a profitable trade for Pakistan. In the contemporary world, the economic growth is almost synonymous to industrial development. With an ailing economy and a limited industrial capacity, Pakistan has fewer options for industrial earnings. Pakistan has a reasonably solid industrial base for commercial production of sports and protection arms in the form of Pakistan Ordinance Factories (POF) and large number of private manufacturers. But this particular industry remained under developed. This research work aimed at evaluation of existing prospects and potentials, analysis of the factors contributing towards the under-development of this industry and the exploring ways and means to transform it into a profitable trade at national level.

The study proceeded as a qualitative research. With requisite background knowledge about the subject because of over thirty years of military service, the researcher visited POF and different arms manufacturing factories / shops in Punjab and KPK. In depth interviews with the key individuals were conducted that constitute the primary data of this research. Besides, secondary data has also been collected from the relevant articles, reports published by the relevant government departments, print media, defence Journals and internet sources. Turkish model was studied in detail. Starting in eighties, Turkey followed a sound strategy to commercialize their sports and protection weapons industry and have achieved a great success. Thematic analysis has been carried out to interpret the primary data collected through IDIs. Major international trade theories were evaluated as secondary data to find out relevance for commercialization of sports and protection arms in Pakistan.

The research work established that sufficient resources, prospects and potentials exist to commercialize sports and protection weapons manufacturing industry. Correct policy framework, government support for this industry and earnest endeavor to attain technological edge can help attain sufficient commercialization. As in any other trade or business, the private or corporate sector needs to assume the lead role with a sound support from the government.

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LIST OF ABBREVIATIONS

POF	Pakistan Ordinance Factories
PHSADC	Pakistan Hunting and Sporting Arms Development Company
SOE	State Owned Enterprises
TAFF	Turkish Armed Forces Foundation
UAV	Unarmed Aerial Vehicle
DEPO	Defence Export Promotion Organization
NDU	National Defence University
SAARC	South Asian Association for Regional Cooperation
R&D	Research and Development
SIPRI	Stockholm International Peace Research Institute
NATO	North Atlantic Treaty Organization
MoDP	Ministry of Defence Production
MOFA	Ministry of Foreign Affairs
PSE	Public Sector Enterprises
KPK	Khyber Pakhtun Khwa
IDI	In Depth Interviews

DEDICATION

This work is dedicated to my parents, who could not see me grow in life but made every effort to give me a solid footing to build my life upon

CHAPTER 1

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Background of the Study

The industrial growth of a country is pivotal to strengthening its economy. Ever since the Industrial Revolution, industrialization has been considered vital for a country's rapid development. At the time of independence, Pakistan hardly inherited any industry from British India. Out of 921 industrial units operating in British India, Pakistan got only 34, i.e. four percent of the total industry established in the Subcontinent (Saif, 2015). After independence, Governments in Pakistan accorded due weightage to the industrial growth. In the sixties, Pakistan attained a sustained industrial growth with the industrial sector's contribution of around 13% to the Gross National Product during 1963 – 64 (Richards, 1965). Unfortunately, the industrial development lost its impetus during the last years of this decade. 1971 debacle and the nationalization of industry during Zulfiqar Ali Bhutto's government further slowed down the industrial development. Slowly and gradually, Pakistan's economy transformed from a '***producer***' to a '***consumer***' economy, sustained primarily by foreign remittances, aid and debt. This arrangement is unsustainable. Every state needs some reliable sources of income. Pakistan will have to enhance its industrial growth to increase exports and decrease imports for a stable economy.

The defence industry is one the most profitable industries globally amid exponential industrial growth otherwise. The defence industry has played the role of a silver bullet for many economies like the USA, Russia, France, UK, China, Germany, Spain, Israel and Turkey. With a struggling economy and limited industrial capacity that is in a state of constant decline, Pakistan has fewer options for industrial earnings. Defence production is one such option. Pakistan has relatively well-established defence industrial base in the public and private sectors. A reasonably solid base is available in the form of Pakistan Ordinance Factories (POF), the country's premier defence industry complex. Private sector organizations are also moderately well established and can effectively draw good benefits out of defence industrial potentials. However, a correct policy framework is needed to harness the existing capabilities.

The term 'Defence Industry' is too vast in its spectrum. It ranges from manufacturing a pistol bullet to a hydrogen bomb. No single study can delineate it in its entirety. In this study, an effort will be made to cover a small and relatively peaceful facet of defence industry - the ***small arms and ammunition for sports and protection purposes***. If manufactured in Pakistan on commercial scales, the

sports and protection weapons can capture the 'import dependent' domestic markets and create lucrative export opportunities.

1.2 **Pakistan's Context**. The state of Pakistan owns large defence industrial complexes like POF in the public sector. In the private sector, arms and ammunition producers exist in large numbers. While public sector is well established, the private sector industry is in a fragmented state following decades-old ways of production. A mechanism in the form of a well-crafted state policy can harness this capability as a future economic asset.

1.2.1 The Public Sector

Pakistan Ordinance Factories (POF) justifiably occupy the pivotal position in Pakistan's conventional defence production capability. Pakistan could not inherit any defence industrial setup at the time of creation. Although the British had established sixteen ordnance factories in the Subcontinent prior to World War 2, none was located in Muslim majority areas. At the time of the creation of Pakistan in 1947, all sixteen factories fell to the Indian share. Newly created Pakistan confronted all sorts of problems. For the armed forces, it had no arms & ammunition manufacturing facility to meet the security challenges.

Consequently, the foundation stone of Pakistan Ordnance Factories (POF) was laid on 28th December 1951 for four workshops in today's industrial town of Wah Cantonment. The industry kept expanding, and today it stands out as the most significant defence industrial complex with 14 factories, 18 departments and six commercial organizations. POF is taking care of over 90% conventional requirements of the Pakistan Armed Forces. POF operates under the Ministry of Defence Production (MoDP) and produces arms and ammunition to meet the requirements set in the domestic as well as the NATO specifications (Pakistan Ordnance Factories, 2021). POF is a sizeable public sector industrial complex. The production facilities exist at Wah, Havelian and Sanjwal; testing facilities exist at Burhan, Hasan Abdal and Sonmiani, while liaison offices exist at Karachi and Rawalpindi. Sufficient surplus capacity for commercial manufacturing also exists. POFs work force is around 25000 men and women. Adequate resources in terms of finances, production infrastructure, vast lands, and expertise (qualified and experienced workforce) exist. As a state entity, POFs enjoy state patronage and do not have major competitors. Products being manufactured by POF in the focused category include .308 Win Sporter Rifle, POF 4 Pistol 9x19mm, POF 5 Pistol 9x19mm and 9 mm Pistol x.

1.2.2 The Private Sector

With particular reference to the manufacture of small arms, the defence industry has existed in Pakistan's private sectors ever since independence. Historically, the people of KPK have a deep association with the arms. People of other areas also had an reasonable interest in the protection and sports weapons and ammunitions. Local-level manufacturing of small arms and ammunition in Pakistan is decades old. Although KPK was considered the primary production zone, cities in Punjab like Sialkot and Wazirabad also produced some best products in this category, like airguns, shotguns, hunting knives and deggars etc. Sikandar Shotgun is a worth mentioning entity in this regard. This company was established in 1897 in the Indo-Pak subcontinent, originally in Sialkot. Within a few years, the company got certification from British Government and started to export shotguns. After 1947, the company continued operating from Sialkot (rozee.pk, 2021). However, these ventures remained a local phenomenon with little to no industrial level of precision. You may find some exceptionally skilled hands working in their small shops in Darra Adam Khel or in a narrow street of Sialkot, but there has never been a mechanism to harness these islands on excellence as an industry.

1.2.3 POF Board Ordinance

POF is governed by The POF Board Ordinance 1961 (ratified through an Act of Parliament), having the following main clauses:-

- *To manage and administer* the affairs of the factories and ***run them on sound commercial lines,***
- To *adequately meet the war and peace needs of the Armed Forces of Pakistan,*
- To **utilize the surplus capacity** of the factories to meet the *needs of civilian population.*

1.3 Problem Statement

Most countries around the globe that possess established defence industries are drawing significant economic advantages. However, the prospects and potentials of Pakistan in defence production seem under-utilized. The contribution of the defence production industry towards national earnings is trivial owing to inadequate commercialization. A significant gap exists between desired and the attained level of commercialization. Stockholm International Peace Research Institute (SIPRI) trend indicator ranks Pakistan at number 42 in the list of top 45 arms exporting countries (SIPRI, 2021).

While global arms trade was $420 billion in 2018 and $531 billion in 2020 (SIPRI, 2021)., the leading export figure for Pakistan is US$ 250 million (MoDP, Two Years Performance Report, 2021). It makes around 0.04% of global trade. Turkey, having a background similar to ours, successfully commercialized this industry and started exports worth hundreds of millions of dollars in 15-20 years.

Products in the focus category (sports and protection weapons) are being manufactured in Pakistan by a public sector industrial complex (POF) and many small to medium private industrial units. However, a meaningful advantage for the national exchequer is not being attained owing to inadequate commercialization. These weapons are either being imported or smuggled in for domestic consumption. In both cases, the national treasury is at a loss. Good commercialization of this segment of our defence industry can undo such losses.

Lack of commercialization can be attributed to a host of issues and challenges, both internal and external. These issues and challenges might include the absence of a state policy for promoting this industry, sanctions on importing production facilities or raw materials, insufficient public private partnerships, lack of industrial precision in the products, inadequate R&D, bureaucratic hurdles, and public sector culture POF. This research explores the contributing factors for this inadequacy and the remedial measures thereof.

1.4 Research Aim and Objectives

Despite the adequate potential, Pakistan could not succeed in attaining meaningful dividends from a reasonably well established defence industry. The research aim is to identify the existing impediments and suggest measures which can facilitate commercialization of defense industry in the focus category (sports and protection weapons). The main research objectives are:-

- Evaluate the prospects of commercialization of small arms production while considering existing manufacturing standards in Pakistan. Also Study existing policy framework about small arms manufacturing to identify shortfalls / improvements required.
- Ascertain the impact of international sanctions on import of raw materials and manufacturing plants / machinery alongside the inadequacies in Research and Development.
- Get an insight into the bureaucratic hurdles that impact commercialization and identify the possible solutions.

- Study the possibility and advantages of public-private partnerships in small arms manufacturing as in vogue in many arms exporting countries.
- Assess the prospects of enhanced quality small arms production by instituting incentivised participation of work force in the POF.

1.5 Research Questions

Main research question is, "**How to attain commercialization of sports and protection weapons for domestic consumption and exports in the public sector (POF) and the private sector**". The driving questions are:

- ***Can we attain commercialization of sports and protection weapons with existing production capability?***
- ***What policy level shortfalls inhibit commercialization of sports and protection weapons?***
- ***Do sanctions impact the commercialization of this segment of defence industry?***
- ***Are there any bureaucratic hurdles that affect the commercialization of sports and protection weapons?***
- ***Can public-private partnerships boost the international standard manufacture of small arms?***
- ***How does R&D impact the commercialization of sports and protection weapons?***
- ***Will there be a positive outcome of incentivised involvement of POF employees over the said commercialization?***

1.6 Significance of the Study

The defence industry is one the most profitable industries across the globe, and it has played the role of a silver bullet for many economies. Given Pakistan's existing capabilities and potential, it can be instrumental in attaining meaningful contributions toward the national exchequer if adequately commercialized. This study is designed to evaluate the prospects of drawing requisite economic advantages from existing defense industry in public and private sectors.

1.7 Scope of the Study

The term 'Defence Industry' is too broad a subject to be covered in a single study. The scope of this study will remain restricted to ***the sports and protection weapons***. An effort will be made to evaluate how the arms manufacturers in public and private sectors can effectively contribute in meeting domestic requirements and opening new avenues for exports.

1.8 Organization of the Study

This research comprises of five chapters. Chapter 1 deals with the background of the study, an appraisal of defense industry significance and its prospects for Pakistan. The problem statement, research objectives and research questions followed by the significance and scope of the study are also covered in this chapter. Chapter 2 is the review of related literature on the subject. An effort has been made to consult available literature related to the research questions. Literature review includes significance of defense industry, its commercialization, international trade theories related to commercialization and their relevance to the arms trade in Pakistan, economic advantages of defence production, significant impediments in commercialization of defence industry in Pakistan, constraints for the private sector, public sector culture and the bureaucratic hurdles. Chapter 3 covers research paradigm, type of research and the research methodology. Chapter 4 covers data analysis. Thematic analysis is conducted to identify themes, subthemes, patterns and nodes. Qualitative data, both in primary and secondary forms, has been analyzed to find suitable answers to the research questions. In the last chapter, conclusions are drawn based upon data analysis and recommendations are proffered accordingly.

CHAPTER 2

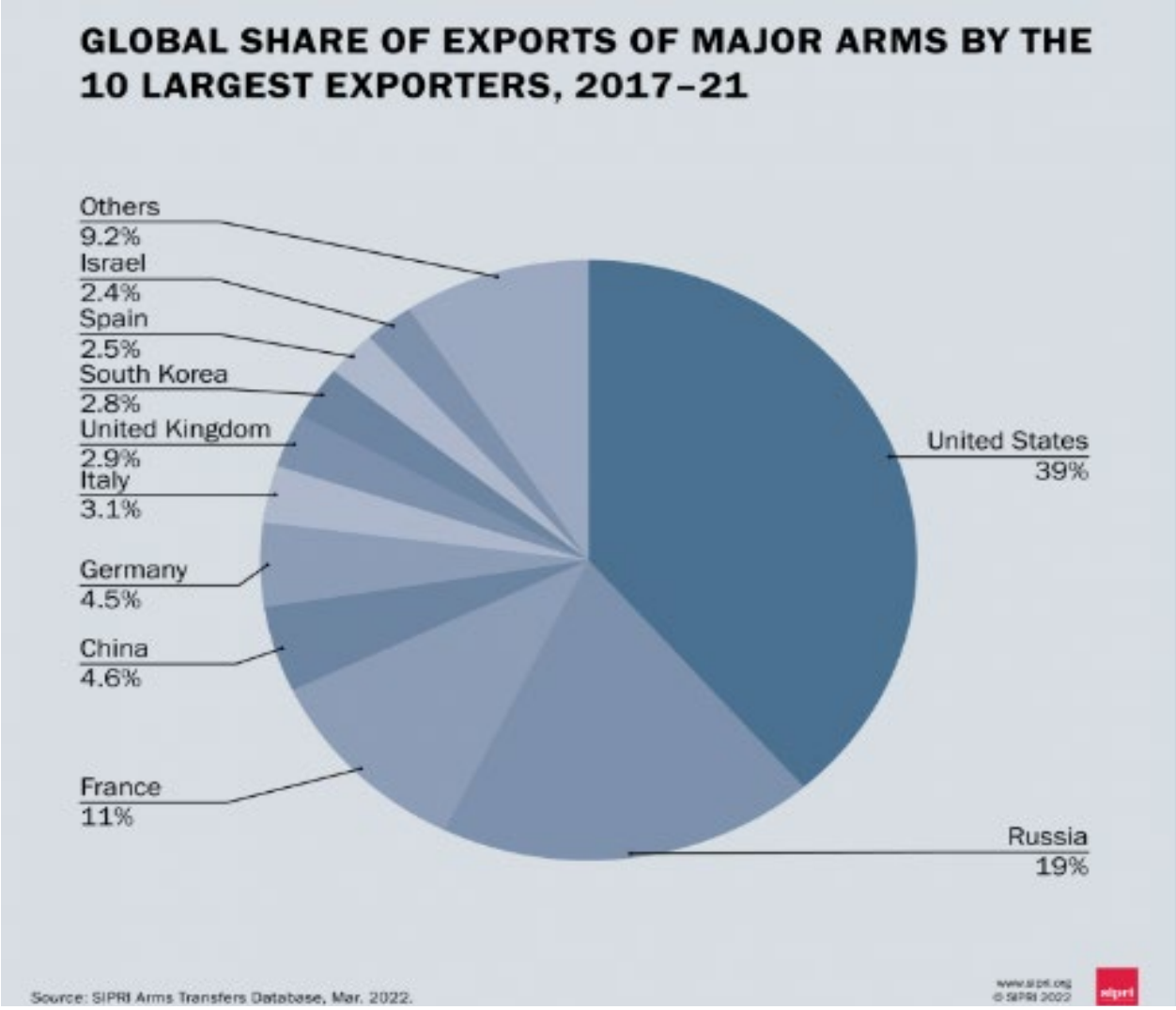
REVIEW OF THE LITERATURE

2.1 Commercialization

This research deals primarily with the "Commercialization of sports and protection weapons". It is pertinent first to understand what is meant by the commercialization itself. As per the Cambridge dictionary, the meaning of commercialization is ***the organization of something in a way intended to make a profit*** or ***the process of managing or running something principally for financial gain***. Commercialization is the process of bringing new products or services to market. The broader act of commercialization entails production, distribution, marketing, sales, customer support, and other key functions critical to achieving the commercial success of the new product or service (Margaret James, 2020). Like individuals, states also need regular sources of income that constitute their economies. While taxes constitute main source of Governments' income (Staff Writer, 2020), countries like ours have to rely on other sources because of the inadequate tax collection. Commercialization of industrial products is a potent and regular source of income.

2.2 The Defence Industry

The defence industry or arms trade is a global industry that manufactures and sells weapons and military technology. This industry involves the research and development, engineering, production and servicing of arms. Arms-producing companies, also referred to as the military industry, produce arms for the armed forces of states and for civilians. It is a thriving global industry. As per Stockholm International Peace Institute (SIPRI), the combined arms-sales of the top 100 largest arms-producing companies and military services companies (excluding China) totaled $420 billion in 2018 and $531 billion in 2020 (SIPRI, 2021). Countries having developed defence industry both in public and private sectors include USA, Russia, France, Germany, China, UK, Spain, South Korea and Italy. The USA continues to occupy the place of leading exproter with 39% share of total global exports. Russia follows with 19% and China is emerging as a future competitor.



(SIPRI, SIPRI ARMS TRADING DATABASE, 2022).

2.3 Existing Defense Production Capability in Pakistan

Defence Export Promotion Organization (DEPO), Government of Pakistan gives a brief background of defence industry in Pakistan in following words:

> "During the colonial rule, sixteen ordnance factories were established in the sub-continent. After the creation of Pakistan in 1947, all those sixteen factories fell to Indian share since none of them was located in the areas forming Pakistan. Thus, newly-created Pakistan emerged with a fragile state apparatus and rudimentary Armed Forces with no infrastructure for arms, equipment or ammunition

> manufacturing facility, to meet the security challenges. Defence Production activities in Pakistan started in 1951 with the establishment of Pakistan Ordnance Factories (POF) at Wah, with the co-operation of British Royal Ordnance" (DEPO, 2021).

Subsequently in the aftermath of the 1971 war, there was an intense realization of the need of self-reliance in the Defence production sector. Thus, in 1972 the "Defence Production Division" was created with the mandate to formulate policies and plans, coordinate production, procurement and development activities and to accelerate the pace of technological development with a view to achieve self-reliance through indigenization. In the back drop of its achievements in production and exports, the Division was elevated to the status of a Ministry designated as the "Ministry of Defence Production (MoDP)" in 2004 (MoDP, Home Page, 2021). Ministry of Defence Production (MoDP) is the Government's principle organization entrusted with all matters related to defence production. MoDP mission statement is:

> "To create an internationally competitive Defence Production sector that collateralizes local Defence Industries with the Defence needs of the Armed Forces through Public Private Partnerships based on self-reliance to satisfy sectoral needs, generate revenue and achieve regional and international pre-eminence as a market leader" (MoDP, Home Page, 2021)".

DEPO also claims that with the passage of time, development in technology and resources, the defence and aviation industry infrastructure has grown to an extent where the Public and Private organizations can meet the requirement of Pakistan Defence Forces very efficiently. Today, there are over 20 major Public Sector Organizations and over 100 Private Sector firms engaged in the manufacturing of defence related products, which are internationally recognized for quality, reliability and competitive prices (DEPO, 2021).

Mr Farhan Bokhari, Contributing writer in NIKKIE ASIA writes in his article "*With China as its mentor, Pakistan triples arms exports"* dated 9 November 2019 that Pakistan, known as a major importer of weapons from China and the United States, is poised to significantly expand its arms exports, with an eventual goal of selling $1 billion worth of defense equipment every year. A senior Pakistani government official told the Nikkei Asian Review that arms exports exceeded $210 million in the fiscal year through June. The total represents a significant increase from the approximately $100 million in arms sales two years earlier. Five years earlier, another official noted, Pakistan's defense exports came to approximately $60 million. The officials, who spoke on condition of anonymity, said the uptrend is reflective of Pakistan's drive for greater weapons self-sufficiency. They declined to

provide further details of what is driving the increase. Pakistan officials in general do not share figures related to national defense or associated matters like types of weapons and export destinations (Bokhari, 2019).

2.4 Small Arms Manufacture at POF

POF is primarily responsible for manufacture of arms and ammunition for the Pakistan armed forces. They are performing the mandated task quite well. In small arms, POF manufactures assault rifle G3A3 and MP5A2 for the armed forces and civil armed forces. Using surplus production capacity, POFs produce sports and protection weapons to include .308 Win Sporter Rifle, POF 4/5 Pistol and 9mm Pistol POF X. Shotgun ammunition is also manufactured in large quantities and is extensively used within the country. Turkish manufactured Sarsilmaz shotguns, pistols Sarsilmaz B6 and Sarsilmaz ST9 are sold under license by POF (pof.gov.pk/, 2019). Manufacture of PK9 Pistol has been discontinued. Most commonly used sports and protection weapons are shotguns, pistols (as side arms) and airguns. POF production line does not include these items at present.

2.5 Surplus Production Potentials – POF

As per POF Ordnance 1951, the surplus potential is to be used for commercial production. Increased productivity by factory employees can create export opportunities. In an article on Pakistan Defence Exports, Qasim Mustafa highlights that tremendous export potentials for Defence products exist (Mustafa, 2004). However, he duly highlighted the lengthy process involved and its complications which nullify the prospects of meaningful commercialization using POF surplus capacity. High production costs and limited production quantity negatively impact the prospects of commercialization. The Government can take major state owned Defence producers on board to expand the existing exports. Instead of selling Turkish made Sarsilmaz pistols, POF might expand indigenous production to meet domestic requirements and create a situation suitable for exports. Moreover, joint venture with some local arms manufacture might prove more beneficial than a foreign arms manufacturer (Sarsilmaz).

2.6 The State Policy

Most defense products exporting countries have a well configured state policy for this industry. The private sector does most of the production works while the Governments provide required facilitation while ensuring requisite monitoring and control. USA, UK, France, Germany and Turkey are relevant examples. However in Pakistan, participation of private sector in defense production has

remained only rudimentary. In an article *"Private Sector must have role in Production of Defence Goods",* published in Express Tribune on 13 December 2015, Ikram Hoti writes, "There are many areas where private investors complain of monopolies in businesses. This is a monopoly that acts against the state exchequer". The monopoly of the state in defence production and exports has restricted the development of the public sector, which has never been exposed to market competition. The defunct monopoly control authority had no history of challenging this monopoly (Hoti, 2015). Later on, MoDP responded to the observations by the private sector industrialists, saying that the government is preparing a "Defence Offset Policy" to encourage the private sector to absorb the "latest defense and dual-purpose technologies". It also said, "Measures are under deliberation to further facilitate the private sector in forthcoming defense production policy," including the creation of a unit for so-called one-window operations — an approach meant to shorten the lengthy bureaucratic process (Ansari, 2019).

Sports and protection manufacturers have not been given any tangible incentive so far by the government as given to other small industries from time to time. A positive step, however, was the establishment of Pakistan Hunting and Sporting Arms Development Company (PHSADC). This Company was established under Ministry of Industries and Production in 2008. Its office is located in Peshawar. Its mandate is to promote hunting and sports arms industry. It has been instrumental in arranging seminars and exhibitions to promote this industry (PHSADC, 2021)

Ministry of Defence Production (MoDP) said in a report in August 2020 that it is planning new policies for defence production and defence offsets, and also restructuring internally to "make it more efficient and viable". It is seeking to enhance the role of the country's private sector in defence manufacturing (Grevatt, 2020). However as explained in the problem statement, the contributions of defence industry in national earnings in trivial, indicating an overall weakness in the state policy on the subject.

2.7 Impediments in Commercialization of Defence Industry in Pakistan

In an article published in NDU Journal 2012, Commodore (R) Asif Majeed has mentioned that Pakistan's indigenous defence industrial sector has certain impediments, which need to be addressed to ensure further meaningful progression. **Sanctions on import of latest plant and machinery**, **difficulties in access to needed raw materials**, together with inadequate funds, **poor research and development**, planning, management and organizational inadequacies, unclear political apathies, are all limitations which have affected the arms industrialization process of all the third world countries

including Pakistan (Majeed, 2012). Like most other countries, India sought the solution of the problem through involvement of private sector. In an article published in Indian Defense Review in June 2014, Maj Gen Mrinal Suman notes that sequel to Indian Government decision to involve private sector in defense industry, manufacture of components, assemblies and sub-assemblies was thrown open to the private sector in 1991. With a view to promote defence-industry partnership, the Ministry of Defence (MoD) opened defence production to the private sector in January 2002. It allowed 100 percent private equity with 26 percent Foreign Direct Investment (FDI). However, only a handful of India's top companies are involved in small value defence contracts. Old mindsets, complexity of procurement procedures and clout wielded by the public sector have been acting as major deterrents to any meaningful participation of the private sector. New aspirants, in particular, find the whole regime to be highly forbidding (Suman, 2014). Similar impediments are faced by the private sector in Pakistan as well.

2.8 Bureaucratic Hurdles

Ali Hassan Bangwar writes in his article published in Express Tribune on 9 Feburaty 2022:

> "The government is responsible to and accountable for the socio-economic welfare of individuals and citizens. However, the objective of a welfare state is immaterial without a compassionate, disciplined and accountable bureaucracy. Being the ultimate executive authority mandated with implementing legislations, the bureaucracy is central towards establishing a welfare state. Regrettably, Pakistan's bureaucracy is ineffective and non-empathetic. Colonial mentalities and power-hungry tendencies are inextricably woven within the system. Historical and socio-economic constraints notwithstanding, Pakistan's bureaucracy lacks the capacity, the compassion, the freedom and the willpower to maintain collective social good. There is a great interpersonal dichotomy and trust deficit between the national bureaucracy and the public. This divide hampers service delivery to all and sundry (Bangwar, 2022).

Bureaucratic hurdles exist for the private sector arms manufacturers in two forms – first the regulatory bodies that are responsible for grant of government permissions for establishment, import, export, interprovincial movements and different types of licenses. Second is the monopoly of state owned defense industries, being run by the state officials. Shehzad Ahmed Mir, managing director of Bow Systems Ltd blames Pakistan's civilian bureaucracy for resisting change. He has been quoted by Usman Ansari in his article in Defense News of July 2019 that,

> "The problem lies in the acceptance of the bare fact that private industry can do the job far better, and at much lower cost than these bureaucrats. Pakistan has the defence production equation all wrong and for the wrong reasons. Unless that changes for the better and the private sector is not only asked to take the lead, but also the defence setups invest in conceptual programs, our defence needs will remain slave to the 'no cost no obligation basis' mantra of the military as a user.." (Ansari, 2019)

The head of UAV firm Integrated Dynamics (ID), Raja S Khan says the once thriving private UAV industry essentially collapsed when state bodies took their projects in house.

2.9 **Research and Development**. Primary research body for arms manufacturing in Pakistan is Armament Research and Development Establishment (ARDE), established in Rawalpindi, Pakistan in 1974 . It has been undertaking research and development in the field of arms and ammunitions (globalsecurity.org/military/world/pakistan, 2021). It primarily deals with the weapons and equipment for military use. Sports and protection weapon manufacturing industry is quite fragmented and is not equipped with adequate research and development means.

2.10 Public Sector Culture

Most state owned enterprises in Pakistan could not contribute much towards national earnings, some have rather been a continuous drag on national resources like Pakistan Steel Mills and Pakistan Railways. Mr Ali Salman, Executive Director of the PRIME Institute writes in preface to the book written by Muhammad Naveed Iftikhar, that, "State hand-outs to sustain State Owned Enterprises (SOEs) amount to welfare populism. Welfare populism ultimately destroys economy - that should be well understood. But it also destroys **basic human values of pride, self-respect and hard work"** (Iftikhar, 2015). His observation is so correct in case of SOEs in Pakistan. As it is said, "it is not the business of state to do business". States do not do businesses, markets do. As a market is ought to fail in running affairs of the state, the state might fail as well when running businesses. Naveed Iftikhar correctly identifies that, "If Government must run a business, : [Boards] autonomy and independence need to be ensured in order to increase the efficiency and effectiveness of SOEs operations aimed at achieving a set of clearly defined objectives" (Iftikhar, 2015). POF is also a state owned setup. Although

they are performing their primary task quite well, the employees willing involvement in the expansion of production activities is more or less similar to other state owned enterprises.

Government supports the state-owned enterprises (SOEs) in five ways: equity injection, subsidies, grants, loans and guarantees on loans. A key challenge to any reforms in the SOE situation is, ironically, the possibility of a judicial blockade (Iftikhar, 2015). It can be in terms of reversing Government decisions, as in the case of Reko Diq Mines agreement or Steel Mills privatization or changing SOEs administration decisions against employees by service tribunal courts. Thus despite providing substantial financial support and ownership, the Government and even the Governing Bodies (Boards) have little to no control over the employees' accountability.

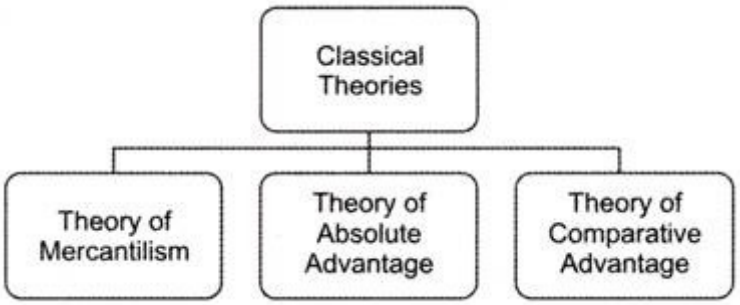
2.11 Identification of Research Gap

Available literature about Pakistan's defence industry primarily focuses on weapons and munitions for hard core military use. Sports and protection weapons did not attract much attention from the academics in Pakistan. Such studies are also not common due to the lack of information, an element of undue secrecy and the impression that weapons and ammunitions bring destruction only. The fact that most people own weapons for protection rather than causing harm is often ignored. Likewise, shooting as a sports activity is also not given due weightage. The sports utility of weapons has significantly enhanced in modern times. Almost all international multi-sport events like Olympics, Commonwealth Games, European Games, Asian Games, SAARC Games etc., include shooting competitions in multiple categories. People around the world show lot of interest in these competitions.

A research gap therefore exists in evaluating the prospects of the commercialization of sports and protection weapons. In this study, an effort will be made to explore avenues of production for domestic consumption and exports. Turkey made phenomenal progress in this regard, where contributions by the private sector made the country a leading exporter of sports and protection weapons. The Turkish model of small arms and sports weapon production is relevant to us and will be deliberated upon in requisite details. POF is the oldest and most elaborately structured defence industrial complex in the public sector. Many countries of the world do not have such elaborate defence production facilities and need military equipment well within the production capabilities of POF. While US or European products are too expensive and non-affordable for many third world countries, Pakistan can provide an affordable alternative.

2.12 **Theoretical Framework**. The term "commercialization" is the key research word in this study. When we talk of economic growth, the commercialization entails profitable international trade. International trade is the exchange of goods and services between countries. It is the business of buying and selling goods or services in order to make a profit. Trade can be conducted within a country, or internationally between nations (Academy, 2012). The growth of international trade is described by different theories which attempt to explain the trade structure between nations and regions.

Adam Smith and David Ricardo gave the classical theories of international trade. The classical theories are divided into three theories as under:

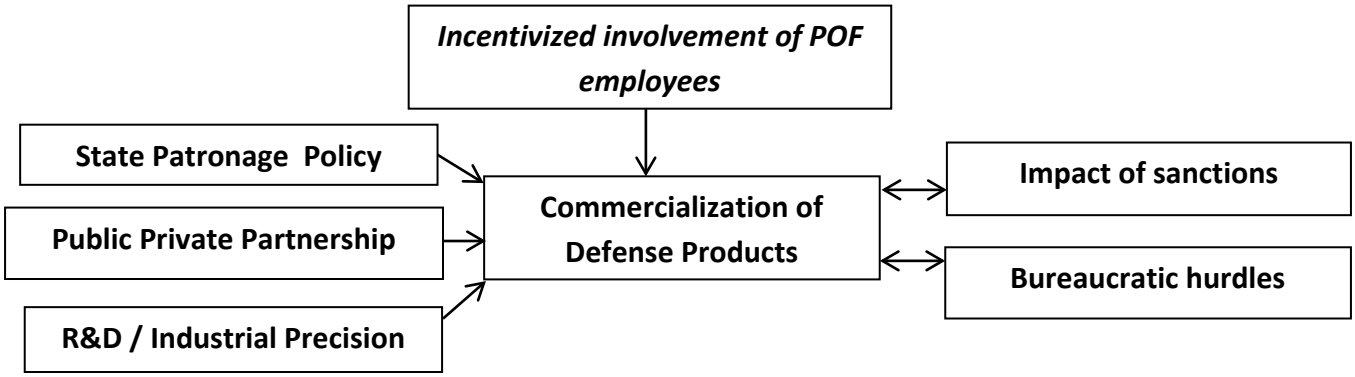


Theory of Mercantilism was given by Adam Smith in his book, The Wealth of Nations. Western European economic policies were greatly dominated by this theory. The theory of mercantilism holds that countries should encourage export and discourage import. It states that a country's wealth depends on the balance of export minus import. According to this theory, government should play an important role in the economy for encouraging export and discouraging import through a correct policy framework. The theory of absolute advantage stated that a country should specialize in those products, which it can produce efficiently. The theory of comparative advantage stated that a country has a comparative advantage in producing a product if the opportunity cost for producing it is lower at home than in a foreign country (Adm21).

Theory of Mercantilism is closely related to the economic needs of Pakistan. Ever increasing imports and meagre exports have grossly enhanced the trade deficit. We need to reverse this balance to become economically viable. Pakistan has the defense industrial capability more than many other countries in the world. Correct policies can help draw requisite economic advantages. Pakistan can and should make an endeavor to actively pursue a state policy that encourages production of sports and protection weapons. It is a very profitable trade with adequate demand inland and abroad. Pakistan can meet domestic requirements and reduce weapons imports in the focused category. With correct policies and practices, we can start exports and earn desperately needed forex. This is likely to encourage our

defense industry to further venture into hard core military arsenal production for export purposes where profit margins are enormous.

This discussion leads towards the formulation of THEORETICAL FRAMEWORK for this research.. Commercialization of sports and protection weapons in Pakistan is a potential source of national income. A correct state policy, well configured public private partnership and adequate research and development can help the country attain desired level of commercialization. The willing involvement of the work force at POF might help boost the production work provided tangible incentives are offered to the employees. The negative pull is caused by the international sanctions and the domestic bureaucratic hurdles. Following model of theoretical framework will be evaluated in this research work:-



CHAPTER 3

THE RESEARCH METHODOLOGY

3.1 **Introduction**. This chapter covers the methods and techniques applied during the research process. A brief linkage with broader research concepts has also been narrated.

3.2 The Research Paradigm

Every research uses one of the research paradigms as a guideline for developing research methodology. Positivism and interpretivism are two main research paradigms. **The interpretivist paradigm has been adopted for this research work**. **Positivism** advocates objective and quantitative methods for the research like official statistics, surveys and questionnaires. **Interpretivism** prefers humanistic qualitative methods like personal documents, participant observations and in depth interviews. Interpretivism was therefore considered more suitable research paradigm for this research work

3.3 Type of Research

There are different types of research like basic, applied, exploratory, explanatory, inductive, and detective. **This research is exploratory in nature**. According to McCombs, exploratory study seeks to explore the main aspects of an under-researched problem. McCombs also explains other research types - Basic research aims to develop knowledge, theories and predictions, applied research aims to develop techniques, products and procedures and explanatory research aims to explain the causes and consequences of a well-defined problem. (McCombs, 2019).

Exploratory research is conducted when it is necessary to understand the general nature of the problem and identify possible alternatives as well as relevant variables that need to be taken into account. Major ways to implement exploratory research are literature search, expert surveys, focus groups and case analysis. (Exploratory Research Design: Definition, Types and Ways to Implement, 2021). As said earlier, studies related to arms production are not very common in Pakistan. The results of exploratory research are usually considered as preliminary or output for further, detailed research. Therefore, the results should be carefully interpreted in view of the risk of misrepresentation of the subject of the study.

3.4 Research Design

This research follows the Interpretivist paradigm, the qualitative approach and in depth interviews for primary data collection. It is designed to identify the issues and challenges faced in the commercialization of sports and protection weapons and to explore measures that can help in attaining profitable commercialization. Specific areas of interest are the existing production capability, the state policy on the subject, institutionalized public-private partnership, the impact of sanctions, bureaucratic hurdles, requisite R&D and willing involvement of the workforce in the public sector.

3.5 Research Methodology

This is qualitative research. Both types of data, primary and secondary, have been collected and analyzed. Secondary data collected during the research is taken from the relevant articles, reports published by the relevant government departments, print media, defence Journals and internet sources. Primary data has been collected by the researcher in the form of in-depth interviews (IDI). An interview guide was prepared. Officials and experts intimately involved in the production of sports and protection weapons have been interviewed.

The researcher visited POF and different arms manufacturing factories/shops in Punjab and KPK. Besides witnessing the production activities, the researcher conducted in-depth interviews with the key individuals. All the participants were cooperative and gave their very candid opinion. Public sector (POF) officials desired anonymity. In the private sector, both large scale manufacturers and small scale manufacturers have been interviewed. The interview guide assisted in keeping the discussion focused on the subject. The debate, however, proceeded freely without any inhibition. The sensitive nature of the government installation (POF) has been duly kept in view, and no information of classified nature has been made part of the study.

Thematic research technique has been utilized to analyze the data collected through IDIs. A semi-structured interview guide was formulated (attached as Annex A). It is comprised of seven modules, each corresponding with a research question. While drawing conclusions and making recommendations, the knowledge attained through primary and secondary data collection was combined to answer the research questions comprehensively.

3.5 Population

Public and private sector manufacturers were the respondents in this research. Total fourteen public sector (POF) and private sector manufacturers have been interviewed. Six public sector officials in different positions (ranging from an ex-Chairman POF to a shop manager) were interviewed. In the private sector, two CEOs and two managers of arms manufacturing factories and three shop level craftsmen were interviewed. One official from Pakistan Hunting and Sports Arms Company (PHSADC) was also consulted. It was observed by the researcher that the pattern of input received from those being interviewed was generally similar in their respective category. For example, interviewees from the public sector gave identical answers to several questions. The same was the case with private-sector manufacturers. In private sector respondents, the subdivided categories of large and small scale industrialists showed consistency in their respective responses. The point of saturation was reached within the recorded number of interviews. In a nutshell, numerous facets of issues and challenges to the commercialization of sports and protection weapons have been identified, and proposals for their rectifications received.

3.6 Sampling Technique

Non probability purposive sampling technique is widely used in the qualitative researches. In this technique, the researcher selects samples based on the subjective judgment of the researcher rather than random selection. This sampling method depends heavily on the expertise of the researchers (Non-Probability Sampling: Definition, types, Examples, and advantages, 2021). The Non-Probability Purposive sampling technique was considered appropriate for this research because it is most useful in exploratory analysis. It depends mainly on the researcher’s background knowledge about the subject. In this technique, the researcher selects the most suitable sample based on the study's objective. I used this technique for data collection. Being in the profession or arms for over 32 years, I gained the requisite background knowledge about the subject of study. The research aim required requisite input from the public and private sector arms manufacturers. The sample was accordingly selected. In the public sector (POF), I interviewed key officials involved in small arms manufacturing at the policy and execution levels. This included the serving and retired officials. In the private sector, I selected leading arms manufacturing companies and a few skilled individuals running small solo projects. The data thus collected proved very helpful in addressing the research questions.

3.7 **Ethical Consideration.** Ethical considerations were ensured during the data collection process. The details of respondents have been kept confidential and anonymous where the participant desired. More importantly and as mentioned before, no information of classified nature has been made part of the study.

CHAPTER 4

DATA ANALYSIS

4.1 Introduction

This chapter deals with the data collection process and data analysis. Since this is a qualitative research, thematic analysis of primary data has been carried out. Braun and Clarke's thematic analysis approach was applied. Thematic analysis is an approach to analysing qualitative data to answer broad or narrow research questions about people's experiences, views, perceptions, and representations of a given phenomenon. It's theoretically flexible: it can be guided by concepts from a variety of fields, and used in a variety of research approaches. It does not pretend to be neutral: all analysis is influenced by the researcher or researchers (Brune, 2020). There are different approaches to thematic analysis, called inductive and deductive approaches: An inductive approach involves allowing the data to determine the themes. In contrast, the deductive approach involves coming to the data with some preconceived themes you expect to find reflected there, based on existing knowledge. Thematic analysis in this research work is deductive in nature.

4.2 Collection of Data

The data collection process proceeded as under:

4.2.1 Primary Data Collection

Primary data was collected through in-depth interviews. As mentioned in the research methodology, the researcher visited POF Wah and arms manufacturering companies / shops in KPK. Large scale established industrial units and small scale manufacturers have been visited. Detailed interaction with skillful individuals and productive minds provided vital information. A semi-structured interview guide was prepared (attached as Annex A). It is comprised of seven modules, each corresponding with a research question. Open-ended questions were included in the interview guide, and discussion was allowed to proceed freely. Frank's opinions and precious input were received from all the participants. The primary data has been divided into two data sets:

- Data Set 1 - Data collected from public sector officials (POF)

- Data Set 2 - Data collected from private sector manufacturers

The time taken during primary data collection was about eighteen weeks. During each interview, I had a blank interview guide. I kept filling it in on each answer from the interviewee. While the respondents answered questions included in the interview guide, many new questions emerged during the discussion. All the questions and answers were noted in brief form. After every interview, the first thing I did was transcribe it in computer typed form.

4.2.2 Secondary data Collection

Relevant information available in the form of open source literature has been consulted and evaluated. Relevant Government bodies like Ministry of Defense Production (MoDP), Defense Export Promotion Organization (DEPO) and POF have their websites and adequate information is available in the form of performance reports and periodic updates. Defence magazines and internet sources also render valuable information on the subject. The researcher has made an effort to extract relevant data from these secondary sources and fuse it with the primary data collected to develop a comprehensive study.

4.3 Data Analysis

The interview guide was used to obtain input from all the participants. Every point that was discussed during the conversation was noted verbatim. Since the discussion moved on freely, a lot of additional information was gathered. The interviews were transcribed and computer typed. These transcripts were repeatedly consulted during the analysis stage to identify codes, patterns, and themes. Braun and Clarke (2006) method of thematic analysis was utilized.

Thematic analysis steps were followed as explained in following table:

Phase		Description of the process
1	Familiarising yourself with your data	Transcribing data (if necessary), reading and rereading the data, noting down initial ideas
2	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code
3	Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme
4	Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis
5	Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme
6	Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis

(Marshall-Lucette, 2013)

4.4 **Thematic Analysis Step 1 – Familiarization with the Data**. This step is all about getting to know the data. It involves reading and re-reading the data to become intimately familiar with its contents. The researcher starts taking notes to help mark preliminary ideas for codes and labels (Project Editing Help, 2022). Soon after every interview, I had transcribed each interview in computer typed form. I read each interview repeatedly to extract the meaningful information. All such information was highlighted in relation to the research objectives and research questions.

4.5 **Thematic Analysis Step 2 – Creating Initial Codes**. This step entails generating initial codes that identify important information in the data which may be relevant to answering the research questions. Coding involves highlighting sections of the data (phrases or sentences) each time you note something interesting in the data (Project Editing Help, 2022). A code is a label assigned to a piece of text, and the aim of using a code is to identify and summarize important concepts within a set of data, such as an interview transcript (Crosley, 2021).

In step 1, sorting of data in relation to the research objectives was completed. I now started to group the inter-related phrases out of the highlighted text under some heading, label or code. In this way, every segment of the data that had some relevance to the research questions was grouped under an initial code. I compiled and labelled the important concepts in the data set with the help of questions included in each module of the semi structured interview guide and the additional questions asked during the interview. The questions and answers relevant to research objectives in each module are compiled in the following table.

Module 1	**Existing production capability in POF and the private sector**	
Questions	**Answers**	**Label /Code**
What is the primary mandate of POF?	• *POF is basically meant to meet the requirement of Pakistan Armed Forces.* • *POF manufactures arms and ammunition for army, navy and air force. We also provide weapons to civil armed forces when they give some demand.* • *We get production targets from armed forces and manufacture accordingly. In most cases we meet the production targets.* • *POF is supposed to manufacture weapons and ammunition for the Armed Forces and they are bound to purchase their required items from POF on price set by POF.*	**POF Mandate**
As an industrial complex, what are major constituents of POF?	• *POF is a mega industrial complex in the public sector. Its production facilities are spread over Wah, Havelian and Sanjwal. It also has numerous testing facilities, commercial offices and liaison offices.* • *There are around twenty factories located in Wah, Havelian and Sanjwal.* • *POF has a vast area. There are dozens of factories. There are estate areas where employees live. Now these residential areas have grown huge with a large*	**Size and Capacity**

	civil population. • *Major constituents of POF are around eighteen main factories, six subsidiary production units, testing facilities, offices and residential areas. Besides, other civic facilities like education institutions, hospitals, markets, power station and water pumping stations are also part of POF estate.*	
Is there any surplus capacity for commercial production?	• *POF is a huge industrial complex. Being a state owned entity, it has vast lands. It does have surplus production capacity over and above what is required for meeting the primary requirements of the armed forces.* • *Our primary focus remains on meeting production targets given by the armed forces. Some additional production activities also go side by side using surplus production capacity.* • *Yes, POF has surplus capacity. It is being used for commercial production. For example, Wah Noble is manufacturing commercial explosives and detonators. Wah Brass Mill is producing high quality brass. Wah Industries Limited is there to coordinate the commercial production by different POF setups.* • *Yes there is surplus capacity. It is being used for manufacturing products for civilian use including sports and protection weapons.*	**Surplus Production capacity**
What is the policy frameworks with regards to commercial utility of surplus capacity in POF?	• *Main policy framework governing POF is POF Ordinance of 1951. As per POF Ordinance of 1951, the surplus capacity of the factories is to be utilized to meet the needs of civilian population.* • *Surplus capacity can be used for commercial production.* • *POF is doing what is its actual mandate. I cannot see*	**Policy Framework for surplus capacity**

	any surplus capacity • *POF has departments like Wah Industries Limited for commercial utilization of surplus capacity.* • *There is a commercial wing headed by Director General Commercial, also called DG(C). This department is responsible for commercial utilization of POF surplus capcity. Factories including Shotgun ammunition factory, Hightech plastic factory, packages factory etc come under this wing.*	
What specific production facilities exist in POF with regards to manufacture of sports and protection weapons?	• *We have small arms factory and machine gun factory in POF which are primarily meant to meet the requirements of state institutions.* • *Heckler and Koch (H&K) plant exists for manufacture of small arms.* • *POF manufactures rifles, machine guns and sub machine guns for the state defence institutions. Plant and machinery held in POF is of very good standard.* • *There are different factories and in those factories there are manufacturing facilities. POF has the capacity for large scale production.*	**POF Production facilities**
What is the standard and level of plant and machinery available with POF?	• *POF plant and machinery is adequate for producing arms required for state institutions. POF is also using surplus potentials to manufacture some protection and sports weapons like pistols and rifles.* • *POF is using German origin plant for production of small arms. It was transfer of technology and materialized decades earlier.* • *POF plant and machinery is adequate for producing arms required for state institutions.* • *POF is quite well equipped for the given product*	**POF Plant and Machinery**

	range.	
What is the production quality of POF manufactured small arms?	• *POF produces best quality weapons.* • *These are good quality products. May be best in Pakistan.* • *People like POF made weapons. There is lot of popular demand of these weapons.* • *POF made weapons match the quality of imported weapons.* • *Since the plant and machinery is very good, the products of POF are excellent.*	**POF Production quality**
What production facilities exist in the private sectors?	• *These vary from factory to factory. We have gun drill machines, cnc machines, barrel straightening machines alongside other equipment required.* • *Most of the machines required for firearms manufacture are held including CNC machine and in-house CAD/CAM facilities. Barrel manufacturing and some of the gauging / inspecting machines are not of international standards.* • *Daudsons was one of the pioneers in introducing CNC machine technology in Pakistan. This advancement by Daudsons Armoury is due to its adoption of State of the Art CNC technology coupled with in-house CAD/CAM facilities.*	**Private Sector Production facilities**
What is the quality of production in private sector?	• *We are making best quality weapons in Daud arms. Our product is as good as any international brand.* • *We produce good quality weapons.* • *We make good replicas of renowned brands like Glock, Beretta, Sig Saur, Winchester etc. Apparent look of original imported weapon and replica made in*	**Private Sector Production quality**

	any local facility will be exactly similar. However, the precision and reliability of locally produced weapons is generally on lower side because of technological handicap.	
Can we produce international standard products in this category?	• *Yes we can. We have started making our own typical products like True Shot pistol and shotguns. However, we do lack industrial precision so important for international standard manufacturing.* • *Yes of course. We do have adequate skills and plants in public sector. Private sector, however, is rudimentary in this regard.* • *Yes we can. We have started making our own typical products like True Shot pistol and shotguns. However, we do lack industrial precision so important for international standard manufacturing.* • *Private sector manufacturers make good quality copies of foreign brands but lack reliability and precision. A scientific approach with regards to metallurgy and component precision is required that is apparently lacking.*	**International standard manufacture by the private sector**
How old is arms manufacturing industry in Pakistan?	• I think it is decades old. • In public sector, POF was raised as an industry in 1951. Arms manufacturing in private sector dates back to pre-partition times. • POF is over fifty years old. • It is very old. Private companies like Sikandar arms produced weapons even before independence. So many other small to medium arms manufacturing	**Historical perspective of arms manufacturing industry in Pakistan**

	industries existed. However, they could not grow well. • In former NWFP and present KPK, arms manufacturing existed ever since colonial times. Here, the demand of weapons is huge because of local culture. • Skills and basic infrastructure for arms manufacturing always existed. No meaningful development or progress could be seen.	
What is the demand of sports and protection weapons in the local market?	• *A significant demand exists.* • *Sports and protection weapons are quite popular. People show lot of interest in these weapons. We have lots of arms stores in all parts of the country.* • *Our weapons do have reasonable credibility and acceptance in local market.* • *People all over Pakistan like to own sports or protection weapons.* • *People do seem to have interest in sports and protection weapons.* • *Apparently, numerous products and buyers are seen in weapon markets.* • *People have lot of interest in sports and protection weapons.*	**Demand of sports and protection weapons**
Why large number of weapons is either imported or smuggled in?	• *People prefer imported weapons. Some quantity is imported through legal channels while lot is smuggled, mainly through Afghanistan.* • *People prefer imported weapons because of the perception that local made weapons are inferior.* • *People prefer imported weapons. Some quantity is imported through legal channels while lot is smuggled,*	

	mainly through Afghanistan.	
Do we have a reasonable industrial base in Pakistan for industrial production of protection and sports weapons (shotguns, pistols, air guns and rifles)?	• *Yes we have.* • *Arms manufacturering is very old and wide spread in Pakistan, especially KPK. But unfortunately, not very well established. Many skilled people are available but mostly rely on tools of the last century.* • *In POF, we produce limited quantity of protections and sports weapons because it is not our primary responsibility. I do not know much about the private sector.* • *We have POF as a reputed arms manufacturer. In private sector, there are hundreds of manufacturers but they lack latest manufacturing technology.* • *I think Yes. There are so many factories here in this small industrial zone on Kohat road, Pehawar. Besides, there are so many weapon manufactures in other areas of KPK.* • *In public sector (POF), we manufacture small arms required for the armed forces. Surplus capacity is utilized for production of some sports and protection weapons like pistols and rifles. Shotguns, air guns and other sports / protection weapons are being produced in private sector. The private sector is very old and well established at different places, especially in KPK. However, it is not technologically well developed and is in a rudimentary form and fragmented state.*	**Arms manufacturing industrial base**
Handmade sports weapons are extremely expensive. Can we produce	• *Yes we can. Adequate promotion through exhibitions and other relevant means like production documentaries can introduce our handmade weapons in the international market. Once we gain a foothold there, we should be able to increase quality exports*	**Propitious Niche**

competitive products in this category?	*with significant earning.* • *It is quite possible to compete in this particular field because the expertises of our craftsmen are exceptional. With appropriate promotion and state patronage, we can earn lot of foreign exchange in this particular field.* • *Lot of quality improvement and skill refinement is required which is not available as yet.* • *Yes it is possible. We have so many skilled hands. Their work is very impressive but they are very low paid and are not anywhere in the international market. I think with an overall improvement in this industry, we will be able to promote their skills and capitalize upon this particular prospect as well.*	
Can we produce international standard products in this category?	• *In POF, we are already making weapons of international quality.* • *Cutting edge technology required for international level production is not held in the private sector. We are trying hard but face the technological shortfall.* • *Yes we can. We have started making our own typical products like True Shot pistol and shotguns. However, we do lack industrial precision so important for international standard manufacturing.* • *We make very good replicas but do not have our own patent. Off late, we have started making our own typical products that may take the form of our patent. However, we do not have industrial precision so important for international standard manufacturing.* • *Yes of course. We do have adequate skills and plants in public sector. Private sector, however, is rudimentary in this regard.*	**Public and Private Sector Prospects and Potentials**

	• *Private sector manufacturers make good quality copies of foreign brands but lack reliability and precision. A scientific approach with regards to metallurgy and component precision is required that is apparently lacking*	
Is it possible that Pakistan finds a place in arms exporting countries in the focus category?	• *Nothing is impossible. But concrete steps will be required to make that happen.* • *Countries that export weapons have far better manufacturing plant and machinery. In Pakistan, the better plant and machinery exist only in POF. Remaining production units are rudimentary.* • *We in the private sector are making earnest efforts to improve our production quality. We have already started exporting some of our products.* • *We will have to first make our weapons domestically acceptable and then think of exporting.* • *Yes it is possible, we just need correct policies and some support from the government.*	**Export Potentials**

Module 2 :	**Shortfalls at the Policy Level**	
Question	Answer	Code / Label
Is there a stated Government policy about development of wide spread arms manufacturing industry in public and private sectors?	• *As far as public sector is concerned, POF does produce limited quantity of protections and sports weapons using the surplus capacity. Since it is not the primary responsibility, only limited effort is directed towards this.* • *As far as the Government policy for the private sector is concerned, the only development I ever came across was establishment of Pakistan Hunting and Sporting Arms Development Company (PHSADC). It was established by Ministry of Industries and Production as a subsidiary of Pakistan Industrial Development Corporation. The company was established in 2008 under Companies Ordinance 1984. PHSADC is mandated to promote hunting and sporting products in Pakistan and in the international market. It's office is located in Peshawar.* • *Establishment of PHSADC is a step in the right direction. Its mandated role is development of hunting and sports arms industry. However, when you see their achievements, you do not find anything significant except arranging seminars and exhibitions. I think facilitation of industrialists in the focused category is more important. Facilitation in interaction with government's offices, incentives for industrialists, creation of export opportunities and ease of doing business inland are few important steps that need to be taken.* • *PHADC is a government department and is working*	**Government Policy - (PHSADC)**

	like most other state departments. Their role in the progress of this industry is quite modest.	
Does a state policy exist to promote this as a small industry?	• *Not really, there is no such policy. However, I think there is some thinking on these lines.* • *I do not know about any such policy.* • *In KPK, some measures are in the pipeline for promoting protection and sports weapons manufacturing industry. In a planned industrial area at Jallozai, I have heard that some areas will be allocated for this industry. However, it happens when it happens. As of now, sports and protection weapons manufacturers are mostly working on their own.* • *Not witnessed by me as yet.*	**Promotion as small industry**
Governments keep giving incentives to different industries, especially small industries. Was any such initiative ever given to sports and protection weapons manufacturers?	• *No significant initiatives have been given for this industry.* • *As far as I know, no such incentives have been given. Government rather plays a role to inhibit their growth by putting bans on issue of arms licenses. Even when bans are lifted, making an arms license is extremely difficult for the common citizen. This attitude reduces the number of buyers.* • *Some private sector arms manufacturer can give you a suitable reply.* • *I do not think any such incentives have been given. Not really. No such initiatives have been given for this industry.* • *Not really. No such initiatives have been given for this industry.*	**Incentives**
Given an	• *Yes it is possible.*	**International**

opportunity, can private sector produce sports and protection weapons of international standards?	• *Local Market is constrained due to the demand of replicas. We are not going for our original products and focus of replicas instead. This aspect has damaged private sector potentials. We have introduced our original products like Trushot pistol and quality shotguns. I hope these become our valued patents.* • *Yes we can. We do have adequate skills. We only lack some resources.*	**standard manufacturing**
Turkey is earning over US$ 120 Million per annum through exports of shotguns alone. It has been made possible through state patronage of the private sector. Can we replicate this in Pakistan?	• *We can but it needs lot of policy changes. First of all, considering weapons as some means of destruction (only) needs to be eradicated from thinking at government level. Then weapons manufacturers should not be denied the sales by putting ban on arms licenses. Markets should be open for competition and quality products. For initial few years, this industry will have to be nurtured in its infancy.* • *I have been to Turkey many times. I have seen their way of working. Correct policies of Government in Turkey helped their private sector to attain this level. If effectively encouraged by the state, we can make it happen in Pakistan as well.* • *Turkey followed a correct policy and provoked their private sector to come up. A state policy to promote this industry can provoke its growth. It takes lot of time and effort. Private sector has to come up and is to be encouraged by the state.* • *I think a state policy to promote this industry can provoke its growth. However, it takes lot of time and*	**Turkish model**

	effort. Private sector has to come up and is to be encouraged by the state. Turkey took decades to reach current level of success. • *Mainly private sector in Turkey is responsible for manufacture of these weapons. Our private sector is too rudimentary in comparison.*	
Do we have any vision or policy for export of these products?	• *We can do so but with strong state support and patronage.* • *First step is quality production. State policy might encourage private sector to make an export market in the longer run.* • *Establishment of a good domestic market will have to be completed first. Only then we can reach out to other countries for business.* • *Support of our foreign missions for promoting our products and make arrangements for participation in international exhibitions.*	**Export policy**
What support you expect from the Government?	• *Government should first of all recognize this as an established small industry and then take steps for its development. We, the decades old firearm manufacturers can advise the policy makers about the practicable measures that can help boost this industry.* • *Ease of doing business, facilitation in arms license issue to general public, introductory displays in international exhibitions and facilitation in issue of export licences.*	**Government Support**

What sureties private sector manufactures expect from the Government?	• *Ease of doing business for arms manufacturers. From Custom clearance of raw materials to interprovincial movement, government should facilitate arms manufacturers.* • *Confirm sale orders from local Law Enforcing Agencies.* • *DC office should be empowered to issue inter provincial arms transportation licenses.* • *Illegal arms trade should be strictly controlled.* • *Decrease on import of foreign made weapons.* • *Government can help improve this industry by taking following steps:* • *Facilitate licensing by introducing effective online application and tracking system, especially for self-defence.*	**Sureties for private sector**
Can private sector manufacturers provide good quality small arms to law enforcing agencies?	• *Normally civil armed forces purchase imported weapons. Government might consider making it compulsory for the civil armed forces to purchase weapons from local vendor.* • *Pakistan Armed Forces should include local weapons in their tests and trials.* • *POF should collaborate with local vendors.* • *Confirm sale orders from LEAs should be given after due process of bidding.*	**Small arm production for Law Enforcing Agencies**
What policy measures may be introduced to give a jump start to this industry for contribution	• *Making industrial zones and clusters with cheap and continuous electric supply.* • *Uninterrupted power at subsidized rates* • *Establishment of a proofing facility in small arms production zones where weapons can be test fired.* • *Provision of a centralized weapon testing facility.*	**Structural support**

towards national earnings?	• *Uninterrupted power supply at subsidized rates.* • *Facilitate the issue of arms licenses to the end users – our domestic clients*	
What support private sector manufacturers expect from POF?	• *Availability of ammunition from POF for testing.* • *Quality assurance and R&D support from POF.* • *R&D assistance*	**Support from POF**
How can Pakistani manufacturers find a place in the international market.	• *I think it is through production of quality products and good marketing.* • *Our diplomats in foreign missions can help promote our products in their respective countries.* • *Participation in international exhibitions can be very helpful in promoting our products. Pakistani sports shooting teams compete in most international shooting competitions. They can use Pak Made weapons to give them recognitions and promotion.*	**Promotion by Pakistani embassies / missions** **International exhibitions**

Module3 - Impact of sanctions		
Question	**Answers**	**Label /Code**
Which sports and protection weapon brands dominate the international market and why?	• *There are so many. Glock, Beretta, Sig Saur, Smith and Wesson, Colt, Heckler and Koch etc* • *Mostly European or US made weapons dominate the international market because of their superior metallurgy. Colt, Winchester, Holland and Holland, Beretta etc are renowned brands. Russian brand like Baikal and Chinese brands like Norinco are also well known. In recent times, many Turkish weapons have flooded the market.* • *I think these US and European brands are famous for their best metallurgy. Russians metallurgy is also quite superior.*	**Superior metallurgy**
Why imported weapons in the focus category are preferred over domestic products?	• *These weapons are generally reliable and accurate. The reasons for superior quality are good raw materials and cutting edge manufacturing technology.* • *Because of quality, reliability, endurance and finish.* • *I think they are more reliable and robust.* • *Imported weapons are more reliable, compact and efficient in some cases because of their superior build quality thanks to better plant and machinery. If we find that setup here in Pakistan, we can produce matching if not better quality weapons.*	**Cutting Edge Manufacturing Technology**
Can we categorize raw materials used for manufacture of	• *Required raw materials are metals – steel, bronze, copper, tin, radium and certain alloys. Other materials required include aluminum,*	**Superior raw materials**

small arms?	*polypropylene, plastics and wood etc. If raw material is of superior quality, the product will be equally superior.* • *Raw materials used for the manufacture of sports and protection weapons make lot of difference in their production quality.* • *Steel of different types, aluminum, polypropylene, plastics and lead etc are used. The brands that use superior raw materials do achieve prominence.* • *Steel, aluminum, plastics, radium and lead are required. These materials are found in different regions of the world at different costs..*	
Do locally produced weapons lack reliability and accuracy?	• *Weapons produced in POF contain most of these qualities but these are in very limited numbers.* • *Unfortunately, private manufacturing in focused category rely on copying international brand rather than having their own patent. They lack resources for doing so.* • *Industrial precision lacks in private sector arms manufacturing because of inadequate plant and machinery.* • *We in private sector lack cutting edge technology. So we resort to make shift arrangements. You can easily drill and make a barrel. Button raffling machines gives it the precision that we see in imported weapons and cannot see in Pak made weapons. Similarly, metal colouring plant gives a smooth and long lasting finish to the product. We do not have that so our products are not that well finished.*	**Replica / clone manufacturing**
What is the main reason of this	• *I think first reason is absence of latest manufacturing facilities. Second reason is use of*	**Non availability of latest**

anomaly?	*inferior raw material.* • *We neither have latest plant and machinery nor proper raw materials.* • *We in private sector lack cutting edge technology. So we resort to make shift arrangements. You can easily drill and make a barrel. Button raffling machines gives it the precision that we see in imported weapons and cannot see in Pak made weapons. Similarly, metal colouring plant gives a smooth and long lasting finish to the product. We do not have that so our products are not that well finished*	**technology**
What raw materials are used by private sector manufacturers?	• *I think local manufacturers use iron scrap of different types. It is easily available.* • *They use any locally available materials without much concern for quality or standard.* • *I am not sure about raw materials being used by private sector manufacturers* • *In Daudsons, we use local as well as imported raw materials. China is a great help in this regard. We can import good quality raw materials. Import from European countries, however, is quite expensive,* • *High end metallurgy is not always available. So we in private sector use some locally available raw materials as well.*	**Inferior raw materials**
Is there any problem of availability of raw materials?	• *Not really. Whatever is needed for the manufacture of small arms, is easily available.* • *I don't think there is any problem with regards to availability of local raw materials. Imports,*	**Availability of raw materials**

	however, are quite expensive. • *Raw materials are generally available. However, custom clearance of imported raw materials is difficult.* • *Expensive raw materials raise out production cost. In local markets, people generally look for cheaper local products. If our costs go up, customers will start purchasing Turkish weapons, which are quite cheap.* • *Steel for barrel manufacture is being imported. Remaining items are locally available. Generally speaking, there is no problem of raw materials.* • *No. There is no such problem. We do get the required raw materials.*	**Cost of imported raw materials**
Are there any sanctions imposed on import of these raw materials?	• *We do not face any sanctions on import of material required for small arms.* • *We get most of our raw materials from China. There is no significant problem in this regard.* • *Western countries sometimes create hurdles for the public sector. However, there is no problem for the private sector. For public sector, China is a great supplier at quite reasonable prices.* • *I don't think so. Sanctions are not a serious impediment on import of raw materials. Custom clearance, however, is rather difficult.* • *It is not a serious problem for us. Almost all raw materials required are easily available.*	**Sanctions imposed on import of these raw materials**
Do we have free access to purchase of plant and machinery from	• *It is a difficult preposition. During my tenure as Chairman POF, we tried to import latest H&K small arms production plant from Germany. They refused saying small arms were weapons of mass*	**Sanctions on latest manufacturing technology**

international market?	*destruction in their reckoning. The logic given was that more peoples are killed with small arms than hardcore military munitions.* • *Transfer of Technology is an extremely expensive option. However, some private sector manufacturer can answer you with more details.* • *We already have what we need. Fresh TOT is a lengthy and expensive affair.* • *Small vendors do not have resources for purchase of modern plants from abroad. Established arms manufacturers like Daudsons also face impact of sanction for any type of transfer of technology.* • *We do not have access to or resources for the purchase of latest plant and machinery. We get some old machines and at times import in parts to reassemble again. Heavy costs of latest technology can offset our production costs significantly.* • *Import of plant and machinery from European countries is difficult because of their policies. We either get used machines or import in parts and reassemble after receipt of all parts. Following machines, so important in small arms manufacture are not held with any private manufacturer:* o *Metal injunction mold* o *Heat treatment machine* o *Barrel chroming machine* o *Button raffling machine* o *Metal Colouring Plant*	**Cost effect of TOT**
Why do you think	• *I cannot say. Western countries perhaps are*	**Negative**

these sanctions exist?	*against emerging Muslim powers.* • *Enemies of Pakistan have created a negative image of Pakistan. It is generally believed in the West that Pakistan is an unstable state with lot of space for terrorism.* • *Negative perception about Pakistan can be a major reason.*	**perception about Pakistan**

Module 4 : Public-Private Partnership		
Question	Answer	Code / Label
What is the skill level and production quality of sports and protection weapons being produced locally?	• *Our craftsmen are highly skilled. I think they are as good as any renowned international weapon manufacture.* • *There is no dearth of skill in Pakistan. Our craftsmen are too good. But the problem is that their skills remain underutilized and less paid. Profit margin is quite trivial. The practice of producing replicas has further ruined this industry.* • *You can see our products. These are as good as any international standard weapon. The only problem is that Pakistani customers like replicas more than some original local product with Made in Pakistan written on it.* • *Local craftsmen have a good level of skills. However, they lack technological expertise which are so important.* • *I do not know much about local manufacturers but generally, locally made weapons are of low quality.* • *Local manufacturers make good clones of international brands but without reliability or precision. Skill level is rudimentary. Generally, locally made weapons are of low quality.*	**Skill level**

Is this perception correct that locally made weapons are inferior?	• *Partially yes and partially no. Since we do not have best barrel manufacturing machines, so all the weapons that need a rifled barrel are slightly low on accuracy. Pistols, rifles and airguns fall in this category. Shotgun barrels are smooth bore and do not need rifling. Our shotguns are therefore almost at par with imported weapons.* • *It is not correct for the POF. Production quality is very good in POF. We have a very good training facility, POF institute of Technology (POFIT). I think there are good craftsmen in private sector as well but there is no formal training mechanism.*	**Production Quality**
Can POF undertake commercialized large scale production in focus category or private sector is more suited for this?	• *Primary mandate of POF is to meet the requirement of Pakistan Armed Forces. Large scale commercial production will not be possible in current setting.* • *Private sector manufactures are in large numbers and spread all over Pakistan. Large scale commercial production of sports and protection weapons is more suited for them.* • *I think large scale commercial production of sports and protection weapons can be undertaken by the private sector only. Government departments can never run any business.* •	**Large Scale Commercial production**
POF has collaborated with Turkish arms company SARSILMAZ and has been selling their products under the logo POF-	• *We have always wanted to do such partnership with POF. This will let us draw advantage from POF advanced technology. POF, on the other hand, can spare its resources for more important tasks. I wish POF does so. This will give a very significant boost to domestic arms manufacturing industry.* • *It is possible but only when the private sector*	**POF Collaboration with Sarsilmaz, Turkey** **POF**

SARSILMAZ. Can we develop such a joint venture with local manufacturers?	*manufacturer can match that production quality.* • *Yes, I agree. It is possible and should be practiced.* • *I wish POF does so. This will give a very significant boost to domestic arms manufacturing industry.*	**Collaboration with local manufacturers**
Can public sector arms manufacturers outsource production of some components to the private sector?	• *Outsourcing is very important and should be adopted as a policy.* • *Yes, but it depends on the production facilities available with the private sector manufacturer.* • *Actually the private sector takes the lead in all types of manufacture including defense production. Defense production can be made much more efficient and profitable if private sector takes the lead. Government should make policies that aim at achieving this end.* • *We have our own assembly lines. Instead of making small components, we will prefer making the finished product.* • *I will prefer making the complete product instead of components.*	**Public sector outsourcing to private sector**
What support you think POF can provide to private vendors?	• *I think POF can help private sector in many ways. Some proposals are:* ▪ *POF has best equipment for barrel manufacture. If they start producing and selling barrels to private sector arms manufacturers, our production quality will be significantly improved.* ▪ *Gauging and inspection facilities available with POF are top rated. They may provide us the same at an appropriate price.* • *Easy availability of POF made ammunition for testing.* • *Keep private sectors' products in all national and*	**POF assistance for barrel manufacture** **POF ammunition**

	international exhibitions.	
Can POF render quality control/ assurance to manufacturers in private sector?	• *Yes it is possible. POF has a well-structured quality assurance cell, headed by a qualified Brigadier from Pakistan Army. This cell can provide valuable support. However, we might require raising some new liaison office in POF for this.* • *POF may help in quality assurance and R&D.* • *Yes it is possible and will be beneficial.* • *Yes it is possible. Some mechanism needs to be worked out.*	**Quality control**
• Is it possible to introduce a cell in POF to promote private sector manufacturers?	• *Yes it is possible. But if public sector culture creeps in any such cell, it will be of no use.* • *I think it is do-able.* • *POF is generally focused on life inside their well-developed Estate areas, I do not think they will have any interest in the development of private sector.* • *Making such a cell might help but only if the rules of business are well crafted and clear. Actually running a business and a government department are two entirely different things. POF is a government department. Unless there are firm binding on them from the government to provide specific assistance to private sector on pre-decided expense, this cell will be of no use.*	**Public – Private partnership cell in POF**

Module 5 : Bureaucratic Hurdles		
Question	**Answer**	**Code / Label**
Are there any bureaucratic hurdles confronted by POF?	• *POF is a state owned entity. There are no inhibitions on this account. However, the public sector culture that prevails in all state owned enterprises plagues the performance in POF as well. The bureaucratic channels in POF are not configured for commercialization.* • *We in POF do not face any such issue.* • *Bureaucracy in POF is oversized and underutilized. Long internal bureaucratic channels and lack of business acumen is a major issue.*	**POF Oversized Bureaucracy**
What is the costing system in POF?	• *There are different branches in POF that deal with the finances and manufacturing costs. They workout production cost in coordination with the production units. Then they add numerous miscellaneous expenses as overhead costs. The final cost therefore comprises of production cost plus the overheads.* • *Finance Branch in consultation with the production branch and all other relevant branches workout total cost of a product. This includes all items related to production itself and then the overheads. Each POF product shares these overheads. These include all expenses ranging from pay and allowances to administrative and security expenses that incur in POF. The cost thus goes up.*	**Numerous overheads**
Do you think this cost is commercially competitive? If not,	• *The contemporary corporate world is always poised to capture markets. I think POF costs are not very competitive when we compare with countries like*	**Competitive Costing**

what are the reasons?	*China and Turkey.* • *The costs are not competitive because of two reasons. First is the state of monopoly enjoyed by the POF. They have no competitors. Armed forces are bound to purchase from POF. They give their requirements, POF does the production, sets the cost and armed forces pay the bill through budget allocated to Ministry of Defence.* • *Second reason is the lengthy bureaucratic channels that are involved in setting the cost. All expenses in POF including the pay and allowances of finance branch are included in the overheads. Consequently, the costs of manufactured items exceed significantly.*	
POF Ordinance of 1951 suggests commercialization. Why it did not materialize that effectively?	• *Commercial windows of POF are working all right. I think we are following the ordinance.* • *The people who drafted POF Ordinance then in 1951 had a great vision. POF was to be run as an industry and not as a government enterprise. However, POF employees pleaded in a court of law for entitlement of plots authorized for federal government employees and won the case in early seventies. Then onwards, they fall under ESTA code. The public sector culture set in soon and is prevalent.*	**Public Sector culture in POF**
What is the general response of state departments towards private sector weapons producers?	• *Some private sector manufacturer can answer this question.* • *The attitude is generally unfriendly if not hostile* • *Our successive governments have generally not been very friendly to the industrialists. Then there are so many regulatory bodies. Every public servant employed there plays as boss. Worst is that we are*	**Bureaucratic response to Private Sector**

	not treated as established small industry. • *Governments are not helpful towards arms manufacturers. We are not treated as established small industry.* • *I think government should treat arms manufacturers as established small industry. I do not see it in the prevalent policies.*	

Which government regulatory bodies are to be approached by the private sector manufacturer for arms production?	• *I think there are total eighteen government regulatory bodies for industry as a whole. I do not exactly know how many are relevant to this sector.*
	• *Ministry of commerce, ministry of interior, District administration, customs, SECP, provincial government departments etc.*
	• *Ministry of commerce and ministry of interior.*
	• *Process of obtaining export license is very lengthy and cumbersome. It involves following steps:*
	  • *When an industrialist receives an import order from abroad for hunting and sporting arms, he need to get The Import Permit along with End User Certificate printed on importers official letter head from the foreign importer.*
	  • *The domestic industrialist then submits the whole package (Purchase Order including detail of products, Packing, Quantity, Import permit and EU Certificate) received from the Importer to MoDP for further processing regarding issuance of Export NOC.*
	  • *MoDP forwards the submitted importation documents to Ministry of Foreign Affairs (MOFA) for verification. After verification of import documents, MoDP then issues NOC/PERMIT*
		Regulatory bodies and lengthy bureaucratic channels

	FOR EXPORT OF DEFENCE PRODUCTS. • *The whole process till issuance of NOC for Export takes few months.*	
What bureaucratic hurdles are confronted by private sector manufactures?	• *Biggest bureaucratic hurdle for arms manufacturers is issue of arms licenses to general public. Repeated bans and extreme difficulty is issue of license reduces the number of buyers. Some private manufacturer will brief you better on specific bureaucratic hurdles.* • *It is very difficult to get inter province transportation permission because it involves Ministry of Interior and Home Ministries of concerned provinces. Availability of export license is also very difficult. Custom clearance of imported materials is also an issue.* • *We have recently started exporting our products to some African countries. The export license has been issued after an effort of 7-8 months. This time should be reduced because the buyer sitting in other countries normally do not wait that long.*	**Arms Licenses** **Inter province transportation of arms**
Do bureaucratic hurdles inhibit private sector from producing international standard weapons in the focus category?	• *Generally speaking - yes. You can get the specific answer from private sector manufacturers.* • *When a business is not making enough money, it is unlikely to flourish.* • *Bureaucratic hurdles negatively affect the ease of doing business* • *Yes there are so many bureaucratic hurdles we face. Starting from licensing to exports. I think Mr Mohammad N Daud will answer you in more details.* • *I think we should not blame bureaucracy for this.*	**Curtailing Ease of doing business for Private Sector**

	Main hurdle is non availability of required plant and machinery. Yes, government should help procure these to whatever extent possible. • *We have recently started exporting our products to some African countries. The export license has been issued after an effort of 7-8 months. This time should be reduced because the buyer sitting in other countries normally do not wait that long.*	
Do you think that countries like Turkey also face such hurdles?	• *I think government in Turkey is extremely supportive towards arms manufacturers.* • *Whenever we book an import order for any material we need from some other country, it takes less than a month for its dispatch from abroad. But when we have to export our products, it takes eight to ten months to complete the lengthy bureaucratic procedures.* • *No, when we import some items, we get them in much lesser time – only two to three weeks.*	**Following Turkish Model**
Is there a possibility of one window operation for private sector arms producers?	• *Presently it is not there and should be introduced.* • *Yes it is possible. Some mechanism needs to be worked out.* • *Yes sure. But it is not there and should be introduced.* • *Yes, provided government decides to help this industry.*	**One Window Operation for private sector manufacturers**

Module 6 : Research and Development Research and Development		
Questions	Answers	Label / Code
What is the importance of R&D in production of sports and protection weapons?	• *Requisite R&D is very important for quality products in this category. Lot of research, evaluation and testing is required for production of these weapons.* • *It is very important. Good quality products can be produced with better R&D.* • *Desired qualities in sports and protection weapons are reliability, precision and long utility life. These qualities can materialize only through requisite R&D.* • *There are many manufacturers of sports and protection weapons. Lot of variety exists. The edge on manufacturer takes over the other comes through good R&D.* • *R&D is necessary and extremely important in the production of sports and protection weapons.* • *Requisite R&D is necessary in all types of production, sports and protection weapons being no exception.* • *Desired qualities in sports and protection weapons are reliability, precision and long utility life. These qualities can materialize only through requisite R&D*	**Significance of R&D**
Can we compete internationally without spending much on R&D (as in vogue)?	• *International market welcomes innovations and technological advanced products. Requisite R&D is inevitable for this.* • *R&D provides you the cutting edge required for competing and winning business. I think requisite expenditure on R&D is a necessity.* • *No, it is not possible.* • *R&D is the road to improvement. You cannot gain any*	**Market Competition**

	commercial advantage over your competitors unless your research on product manufacture is at least equal if not better than them.	
How can R&D impact commercialization of sports and protection weapons?	• *Better R&D will result improved production. So the manufacturers can attract the domestic as well as international markets.* • *Better the R&D, better the product. Good products will be well accepted* • *Better R&D would result in production of good quality sports and protection weapons. This would help arms manufacturers to develop a good domestic market which can further expand to exports.* • *&D helps acquire Cutting edge technology. Good quality sports and protection weapons produced as a result will have better chances of commercialization.* • *Cutting edge technology comes with extensive R&D. Good quality sports and protection weapons produced as a result will have better chances of commercialization.*	**R&D for Commercial gains**
What R&D facilities we have in the Private sector?	• *We have a separate R&D cell in Daudsons. We keep improving our products through R&D. It however, is quite expensive. We are doing what we can afford.* • *We have a separate R&D cell. However, these works are quite expensive. Large factories like ours can afford to maintain such facilities but small factories or workers in this industrial zone mostly rely on traditional old technologies.* • *R&D works are quite expensive. Small factories in this industrial zone are doing whatever is possible. However, if privates businesses expand, we might be able to spend more on R&D.*	**Private Sector R&D Facilities**

Do you think R&D capacity in the private sector is adequate?	• *No, it is far lesser than desired. If we want to make quality weapons, we will have to spend more on R&D and hire adequately qualified engineers for the job. The private sector works for business; to earn profit. We cannot expend more than the expected pay back. At present, pay back is already less because of the reasons I explained earlier.* • *Only few private sector industrialists can afford some form of R&D. Most private manufacturers and almost all small scale manufacturers have no R&D facility. They rely on age old ways of production. The innovations have basically been attained in the art of copying imported weapons and making replicas.*	**Inadequacy in Private Sector**
Why we lack R&D facilities in the private sector?	• *Lack of funds, inadequate or no formal education or training and lack of interest by the Governments are the primary reasons.* • *This industry mostly is in the form of home industry where a child learns the job from his father without any formal education of training. R&D concept is absent in such a setting. Moreover, there is generally very less awareness about the importance of this aspect of production.* • *I think funding is the main issue.* • *Private sector is not that well established that it can spare funds required for R&D in present situation.*	**Lack of means**
What R&D facilities we have in the public sector (POF)?	• *POF has an elaborately configured R&D cell headed by a serving army officer of the rank of Brigadier. Army sends highly qualified officer, normally a PhD for this job.*	**POF R&D Facilities**

	• *POF has a well-equipped R&D cell which is adequately staffed.* • *We have a well-established R&D cell. Adequate resources and funding is available for work at hand. Contributions of this cell are quite significant when it comes to innovations and improvements in the products.* • *They have state sponsored facilities ranging from highly qualified staff to sufficient funding.*	
Can POF render R&D advice to private manufacturers?	• *Every industrialist has a vision. He directs his energies and efforts towards his goal. If an industrialist desires to improve barrel accuracy, he will direct his R&D effort to attain it. So POF might not be able to render advice on industrialist's peculiar issues. A generic advice, in the form of written literature might be possible.* • *May be. It will need establishment of a new cell in POF.* • *POF has a well-established R&D cell. Being a state entity, they do not have any paucity of funds. There R&D efforts are focused at their vast production lines. They can as should share their experiences with regards to sports and protection weapons manufacture.* • *POF can do so. It will greatly assist private sector.* • *It depends on governments' policies. It has not happened as yet.*	**POF R&D Support for Private Sector**

Module 7 : Incentivized involvement of POF employees		
Questions	Answers	Label / Code
What is the skill level of POF employees?	• *They are well trained. Most of them spend decades in a shop on a specific machine. Their skill level is therefore very good.* • *They are good at their work.* • *Generally speaking, they are expert workers. However, as it would happen in any industrial unit, some are good and some are weak as well. But overall, the skill level is quite satisfactory..*	**Capabilities of skilled labour**
Can skilled labour produce international standard weapons?	• *POF is sound industrial unit. Everything in here is of international standard. So are the products skilled labour produce.* • *Yes, POF manufactured weapons can compete any international brand in respective category..* • *Yes, they can.*	**Competitive skills**
What incentives are being presently given?	• *Service in POF has lot of advantages and incentives. Good pays, excellent living conditions, overtime allowances, bonuses and every civic facility.* • *Bonus and certain other monetary incentives.* • *Bonus is given religious or national days. It is normally equal to a pay, but can be more.* • *Good workers are recognized basing on their output and rewarded accordingly.*	**Existing incentives for POF employees**
Are these incentives performance specific or given as a bonus to all?	• *These are generally across the board.* • *There is a tradition of rewarding best workers based upon their quality input. Certificates and monitory rewards are awarded periodically.* • *All employees get the bonus, irrespective someone is a*	**Performance based incentives**

	mechanic, a driver or an officer. • *The bonus is normally announced by the Chairman POF and he cannot include few while excluding others. So the bonus is for everybody.*	
Are they doing some other job after working hours in the POF?	• *Yes, they mostly do.* • *Unfortunately, focus of many POF employees is either on overtime or their second job.* • *I think yes, they do.* • *Yes, most of the employees do have a second employment.*	**Requirement of second job**
Instead of doing another job, will POF employees prefer doing extra work in their respective factories against reasonable monetary incentives?	• *They already get over time allowance for the extra work they do. If there is some additional production required, I think extra manpower will be required.* • *I think additional production from existing manpower will not be possible. Dedicated additional manpower will be required.* • *Over time allowance that they get is quite reasonable. Since they are already being paid, I don't think they will be interested in any such work.* • *As I said earlier, POF employees are enjoying lot of incentives. In a government job, people do not work as mandated. This unfortunate public sector employment culture is really detrimental to any commercial activity. I agree with the notion that it is not the business of state to do business. I think whatever incentives offered, people in public sector cannot work as good as in private sector.*	**Extra work in same factory for financial incentives**
Using existing plant and machinery, can the	• *Existing plant and machinery is good for weapons required for the armed forces. Sports and protection weapon other than being manufactured now will*	**Existing Plant and machinery for**

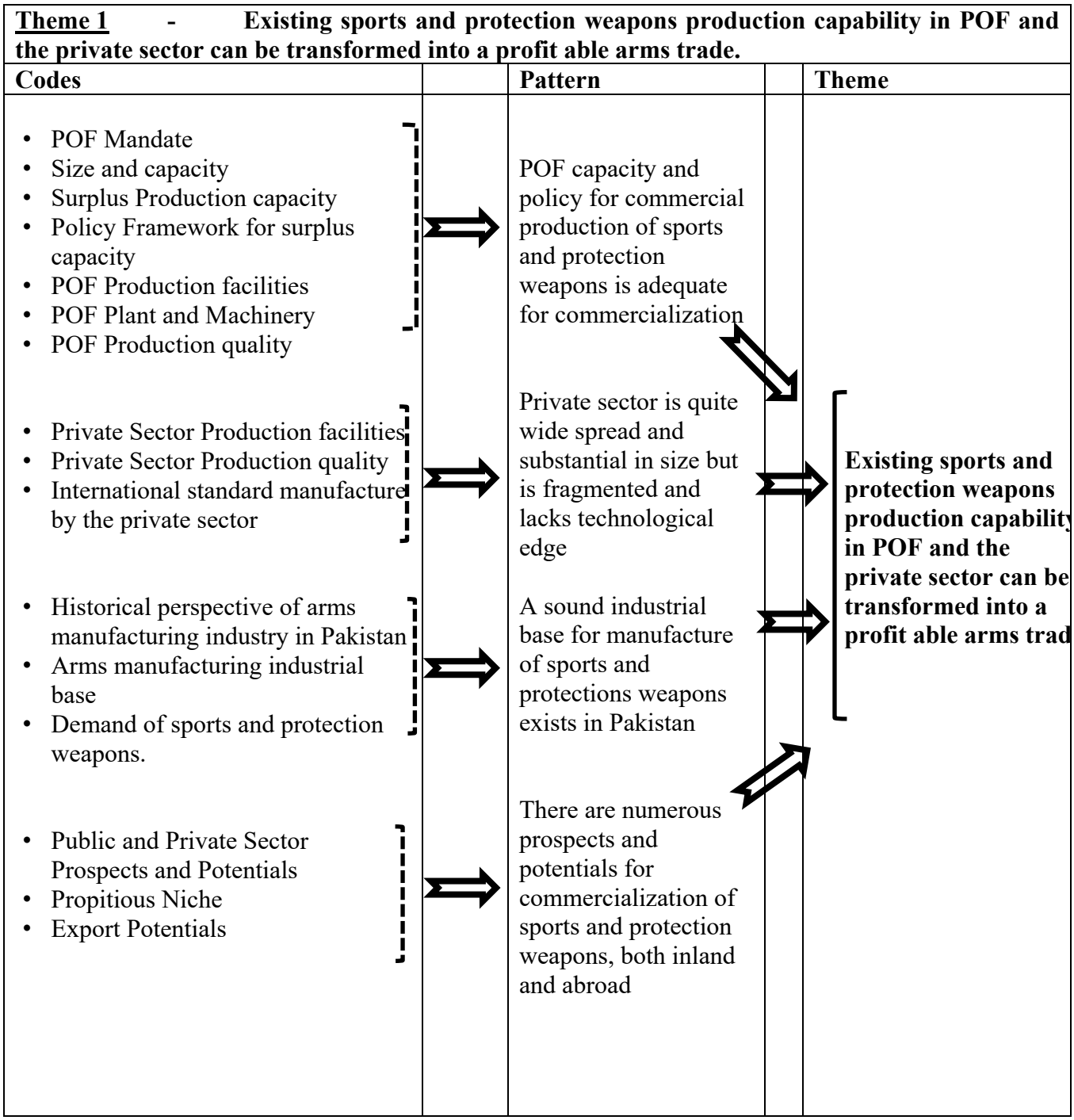
employees produce arms in the focus category?	*require separate plant and machinery* • *Existing plant and machinery is configured for weapons required for the armed forces. But even if required plant and machinery for sports and protection weapons is procured, who will change the public sector culture. Be informed that public sector enjoys state patronage and is not in completion with anyone. For commercialization, the industry has to be competitive in the corporate world. The atmosphere of complete monopoly wherein the public sector is used to operate is not possible in a competitive world. Moreover, the costing system in POF includes countless overhead expences. As per existing procedure, even if POF start manufacturing sports and protection weapons, their price will be so much that it will not be commercially viable.*	**additional production**
In case POF is given mandate for commercial production, what will be the likely outcome?	• *POF is a state own entity. All its manpower, processes and procedures are set in public sector settings. Neither the officer class nor the workers have corporate mind-set. There is no business acumen like that in the private sector.* • *Separate plant and machinery will be required for such a venture. It is unlikely to succeed as the luxuries of public sector do not exist in corporate or commercial world.* • *I believe such production should remain the domain of private sector. Public sector culture does not generally allow businesses and earnings.* • *POF was envisioned as an industry. But slowly and gradually, it got transformed into a public sector department. Now it can and will work on its traditional*	**Public Sector culture**

	pace. Lot of efforts were made to run clothing factory on commercial lines but to no avail. Incentivised involvement of any public sector enterprise will probably need incentives much beyond the permissible commercial leverage.	

4.6 **Thematic Analysis Step 3 – Searching for Themes**. Thematic analysis is driven by the **research questions**. It is not necessary to identify every possible theme in the data, but rather to focus on the key aspects that relate to your research questions. (Crosley, 2021). In this step, the researcher examines all the codes and sort them into broader patterns. Inter related patterns merge into broader themes. Most of the time, several codes are combined into a single theme (Project Editing Help, 2022). A theme is a **pattern** that can be identified within a data set. In other words, it's a topic or concept that pops up **repeatedly** in the data and helps answer the research question(s) (Crosley, 2021).

In this step of thematic analysis, the interrelated codes and labels have been grouped in various patterns. The interview guide facilitated recording data in seven modules, each corresponding to a research objective. In every module, the related codes and labels have been grouped to identify the patterns, further leading into themes. The process of identifying themes in each module is narrated in the following paragraphs.

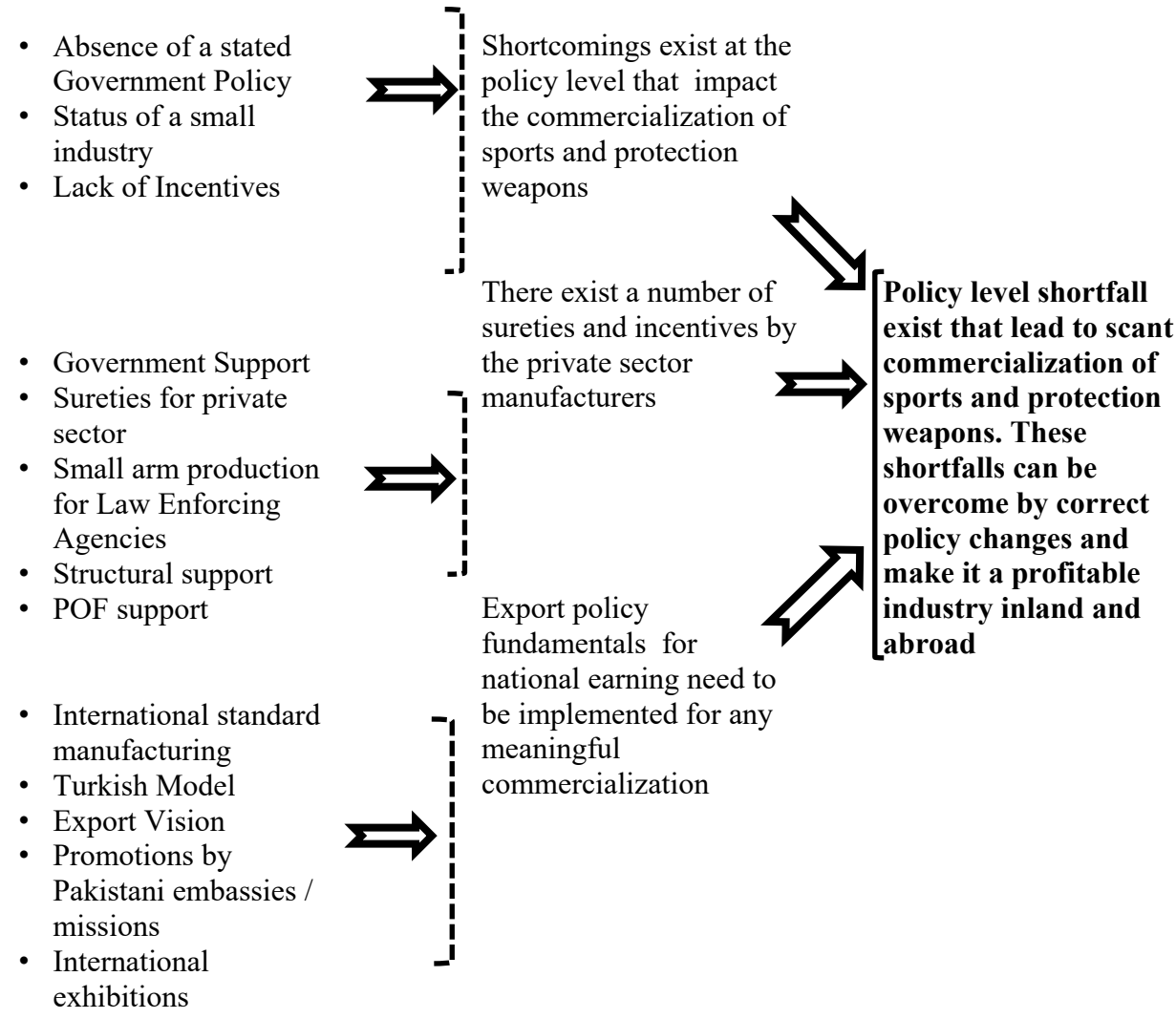
4.6.1 **Module 1 evaluates that whether the existing production capability in POF and Private Sector is adequate for commercialization or otherwise**. Grouping of codes and labels into patterns and theme is as under:



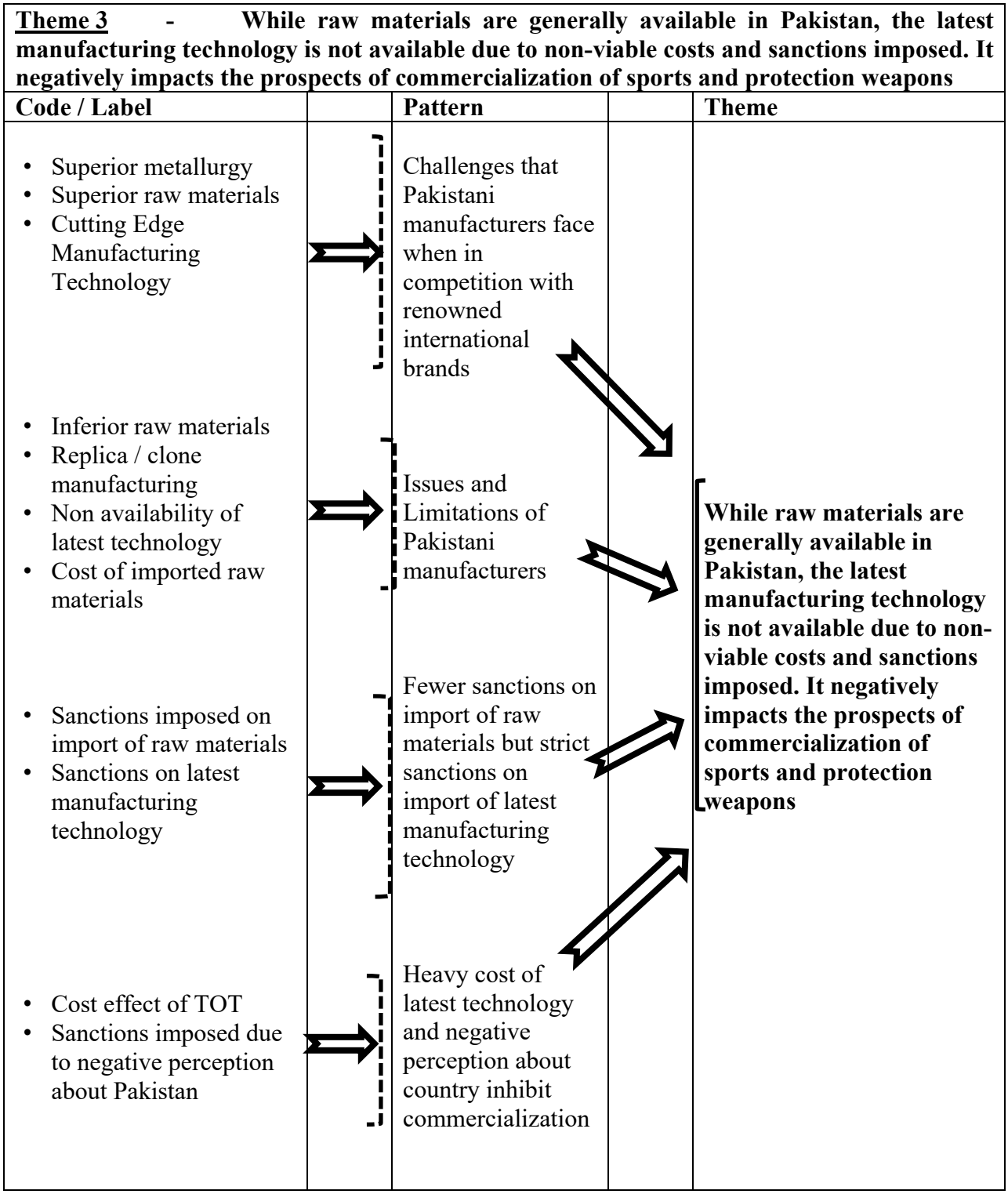
4.5.2 **Module 2 is related to the state policy on the subject and any shortfalls at the policy level**.

Grouping of codes and labels into patterns is as under:

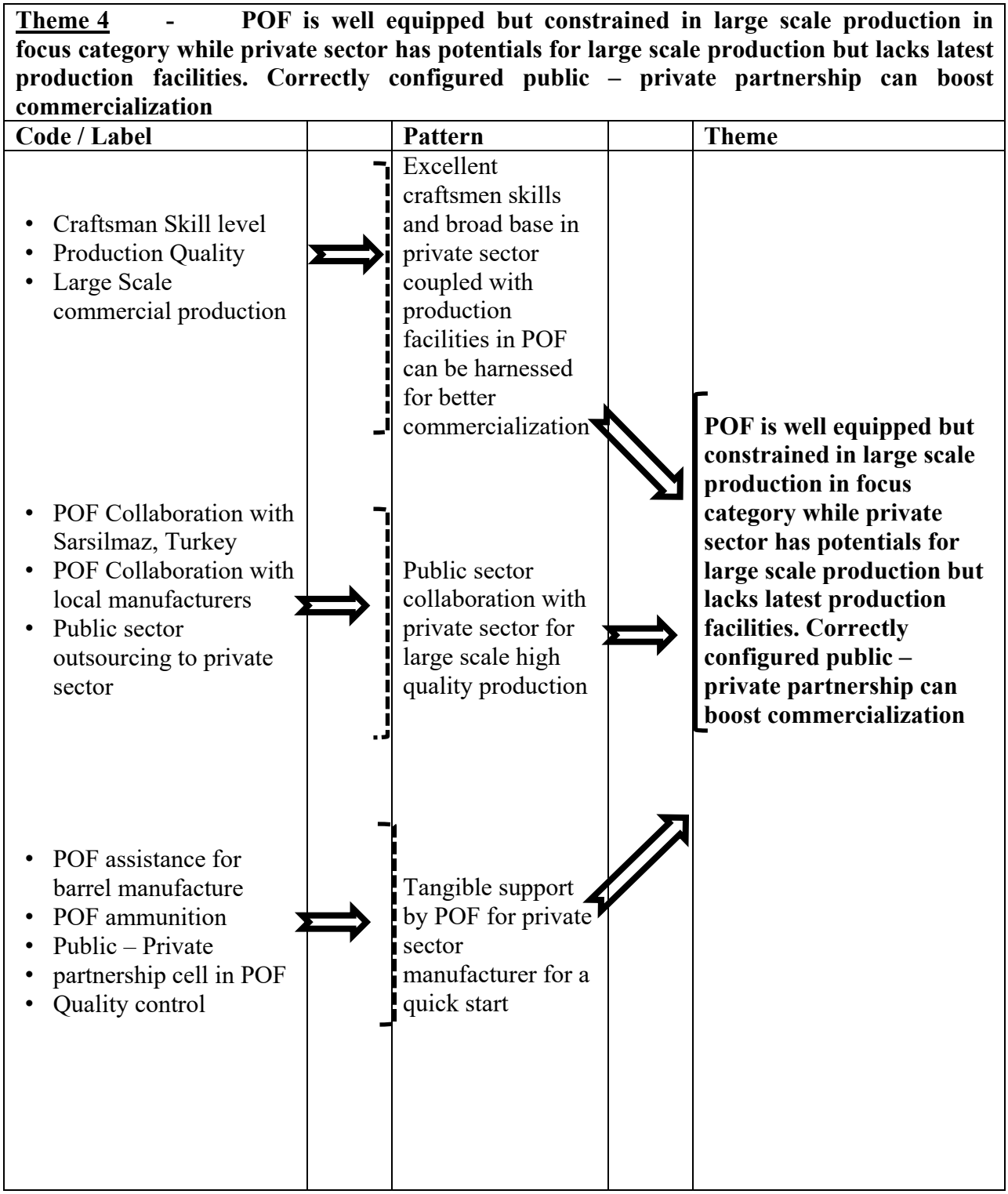
<u>Theme 2</u> - Policy level shortfall exist that lead to scant commercialization of sports and protection weapons. These shortfalls can be overcome by correct policy changes and make it a profitable industry inland and abroad



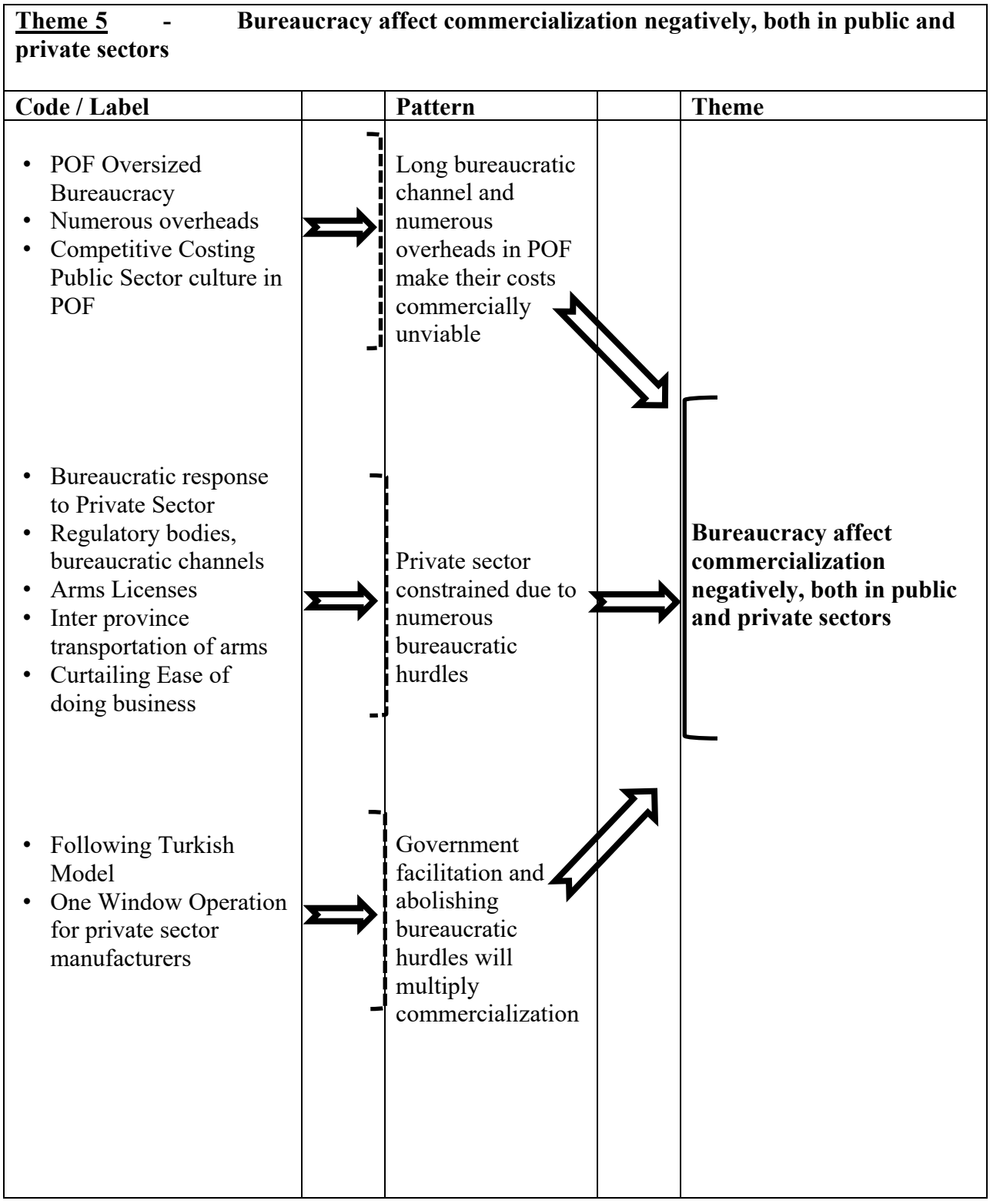
4.6.3 **Module 3 studies the impact of sanctions on commercialization of sports and protection weapon manufacture**. Relevant codes have been grouped into patterns as under:



4.6.4 **Module 4 evaluates the probability that correctly configured public – private partnership can boost commercialization or not**. The patterns formed out of codes and labels in this module are:

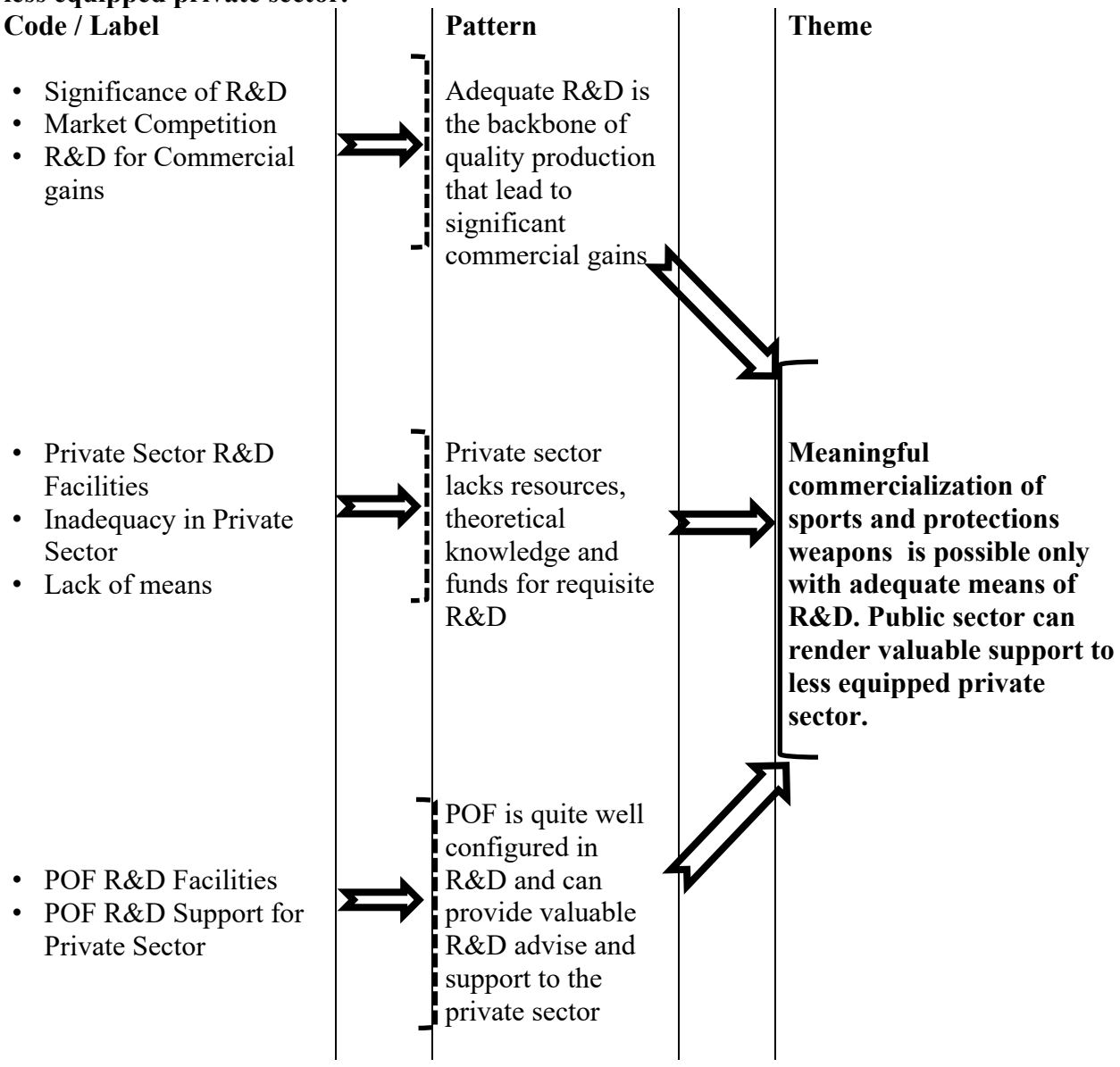


4.6.5 **Module 5 studies how bureaucratic hurdles affect the commercialization**. Grouping of codes and labels into relevant patterns is as under:

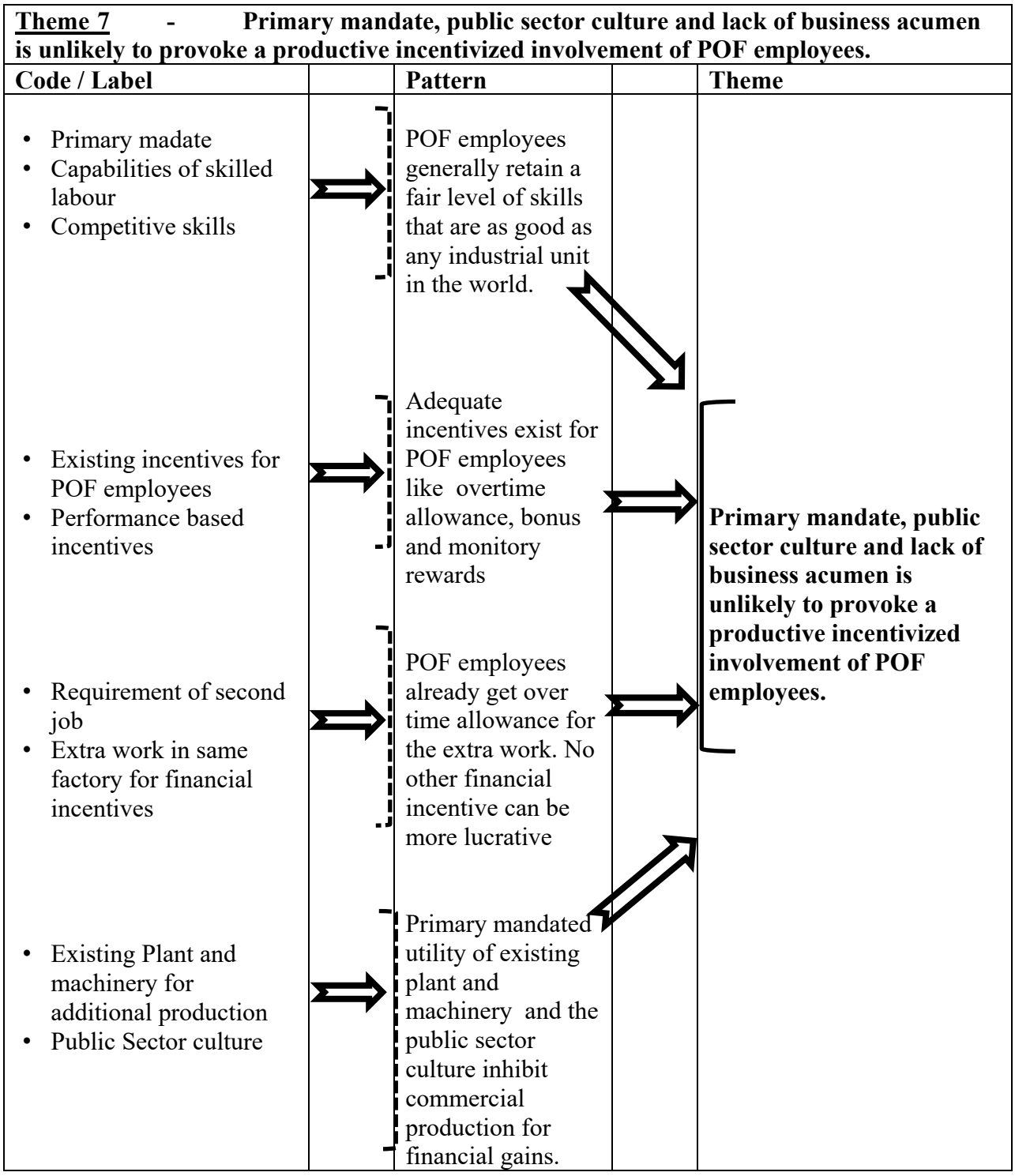


4.6.6 **Module 6 is related to the existing and desired level of R&D**. codes and labels form patterns in this module on following lines:

<u>Theme 6</u> - Meaningful commercialization of sports and protections weapons is possible only with adequate means of R&D. Public sector can render valuable support to less equipped private sector.

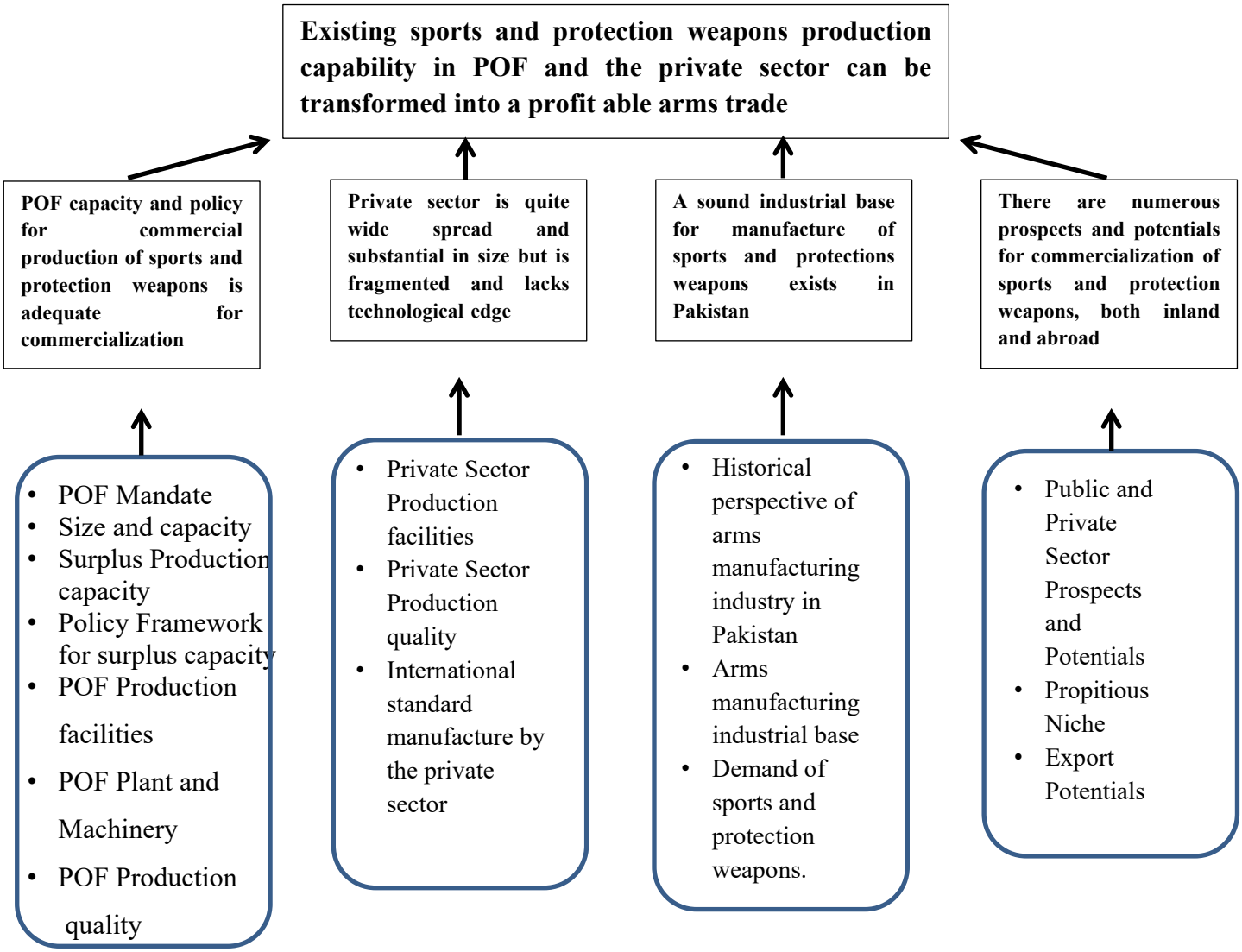


4.6.7 The last module of the study, **Module 7 evaluates would it make any difference if POF employees are given an opportunity to participate in commercial production of sports and protection weapons over and above their primary job against tangible monitory incentives**. The codes and labels form following patterns:

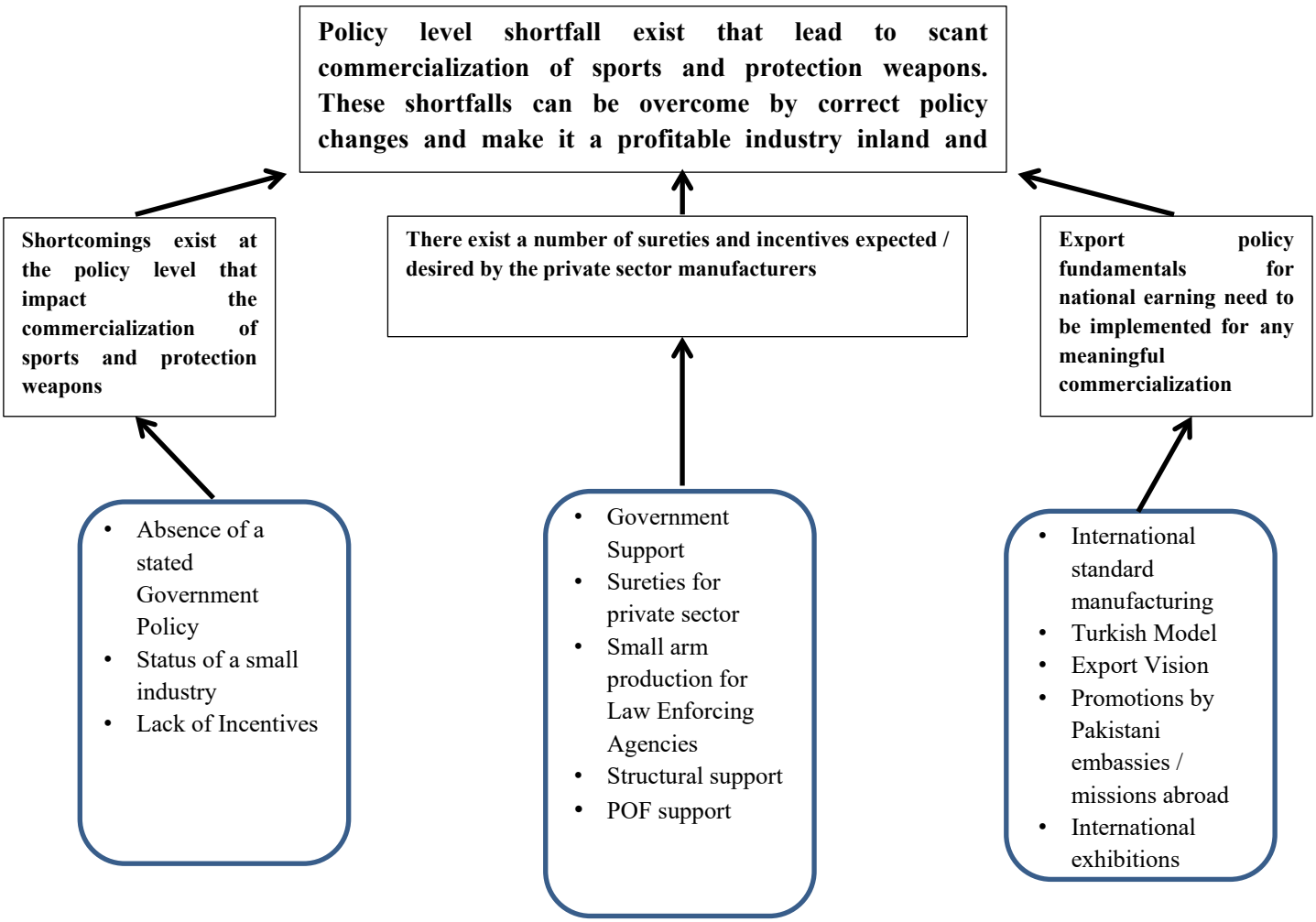


4.7 **Thematic Analysis Step 4 – Reviewing Themes**. This step involves checking and refining the themes developed in step 3 to ensure they are helpful and accurately represent the data. Also, the themes are refined if there are contradictions, overlapping, or become too broad. You can combine themes, split them up, create new ones, or discard them to make the themes more accurate and valuable to your research questions. Also, you may need to move some of the codes and extracts into themes where they fit better. You can go back and forth between codes, extracts, and themes until you feel that all relevant data has been coded and you have a coherent and distinctive set of themes that accurately represent your data (Project Editing Help, 2022). In this step, I re-evaluated each theme against the content of primary data with particular reference to the context of the respondents. A review of themes was conducted as under:

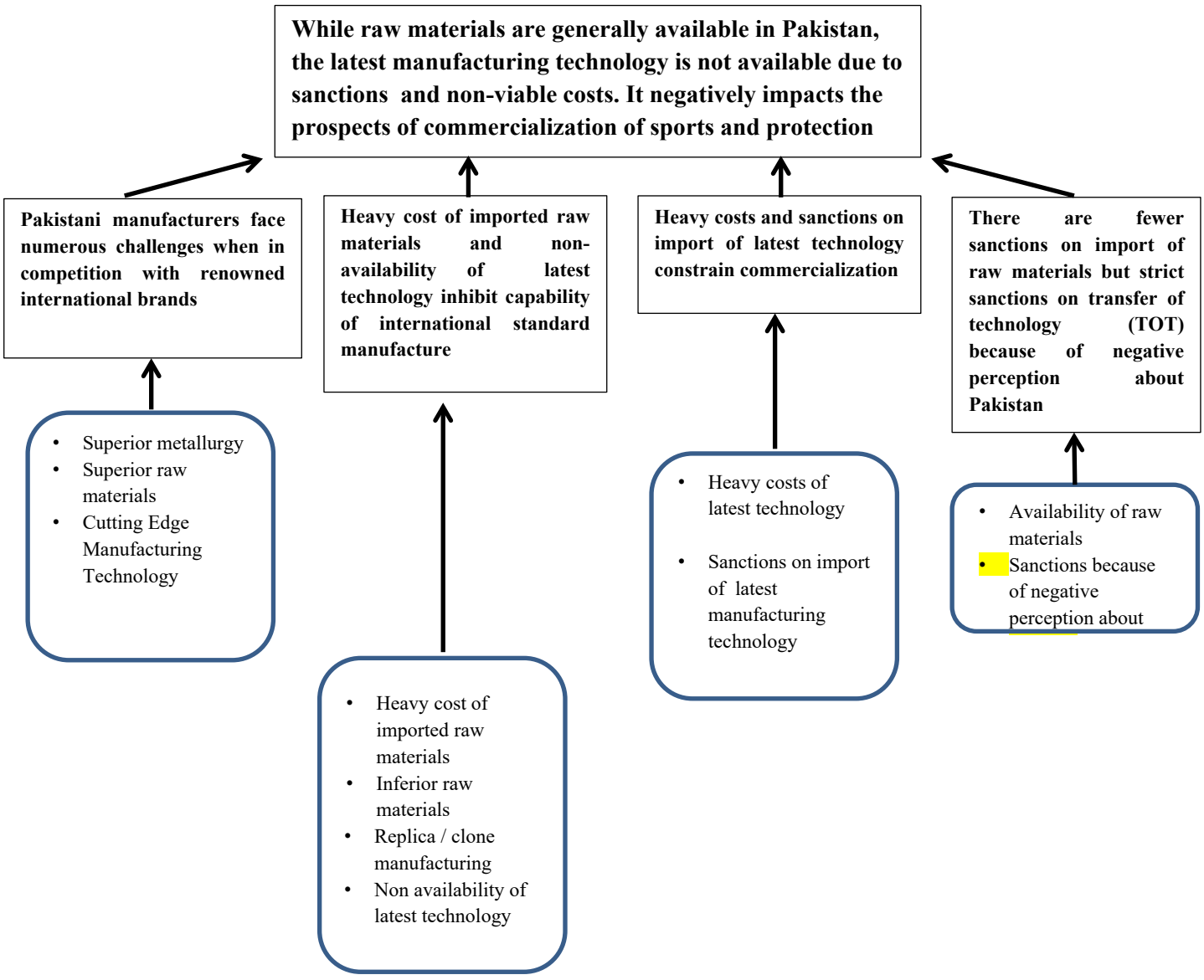
4.7.1 **Review of Theme 1.** Sixteen codes and labels identified in the primary data have been merged into four clear patterns. These patterns had adequate significance when seen in the context of first research question. Fusing them framed our theme regarding the adequacy of production capability in the public and private sectors of Pakistan for commercialization of sports and protection weapons. Its thematic map is drawn as follows:



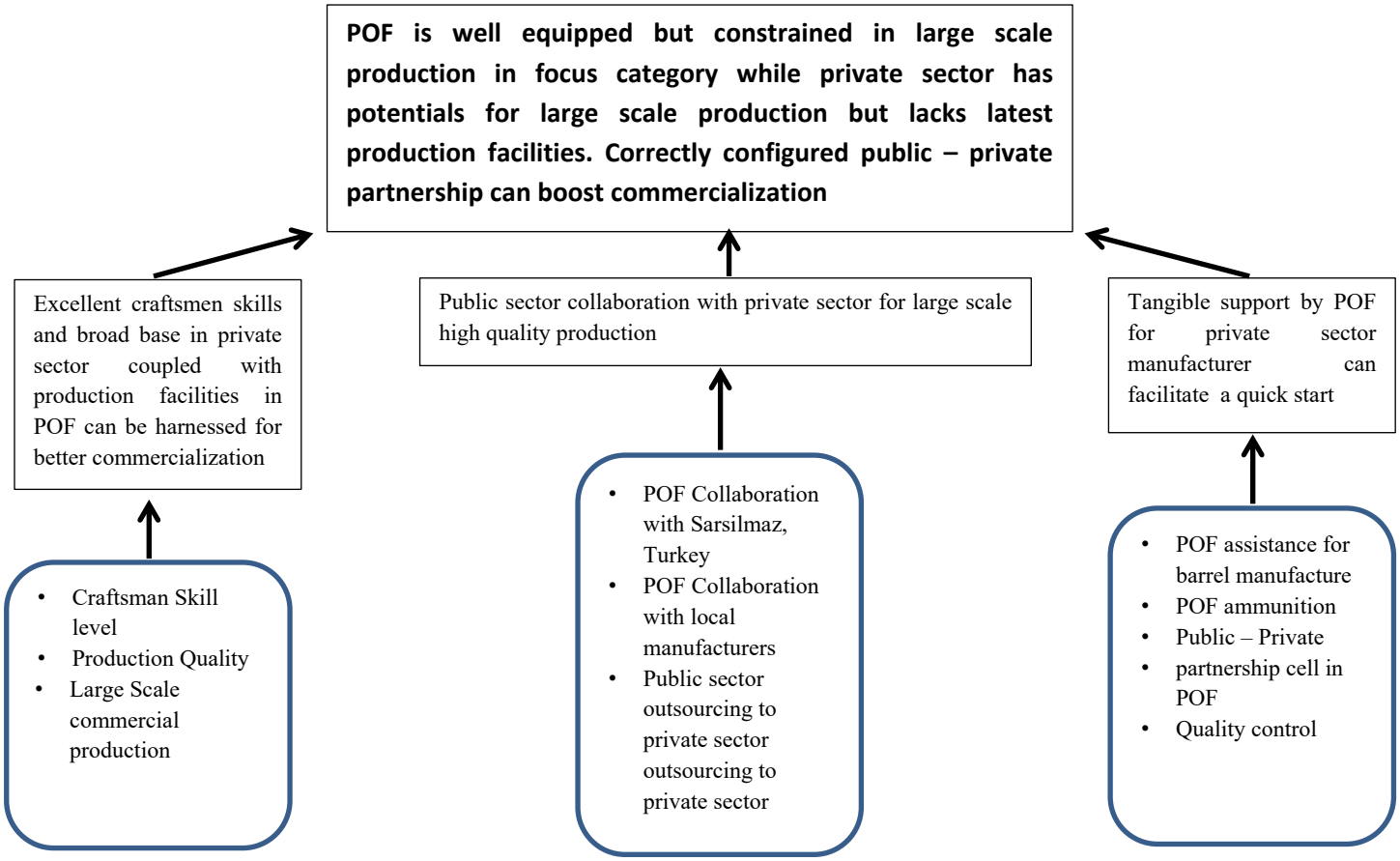
4.7.2 **Review of Theme 2.** Theme 2 corresponds to research question 2 that evaluates current government policy for sports and protection manufacturing industry. Thirteen codes related to this research question have been identified in the primary data collected. These thirteen codes made three distinctive patterns. Resultantly, our second theme emerged. This theme has adequate significance when seen against the corresponding research question. The thematic map is drawn as follows:



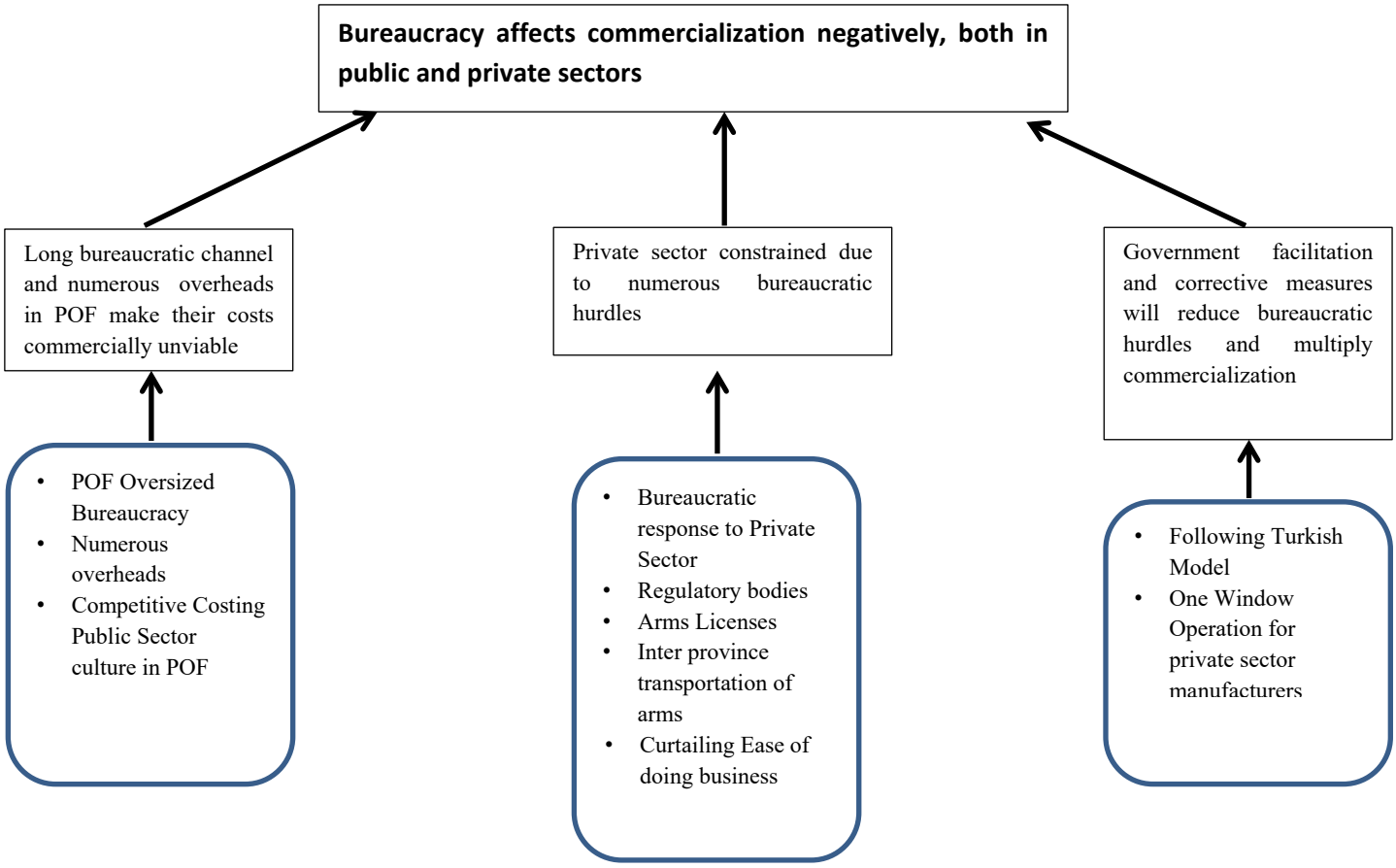
4.7.3 **Review of Theme 3.** Theme 3 is related to the impact of sanctions. Eleven codes identified in the primary data have been collated into four patterns. These patterns transform into Theme 3. This theme corresponds to research question 3. Relevant facts, views and perceptions about the impact of international sanctions against Pakistan on importing raw materials and the latest production technology have been duly analyzed. The thematic map is drawn as follows:



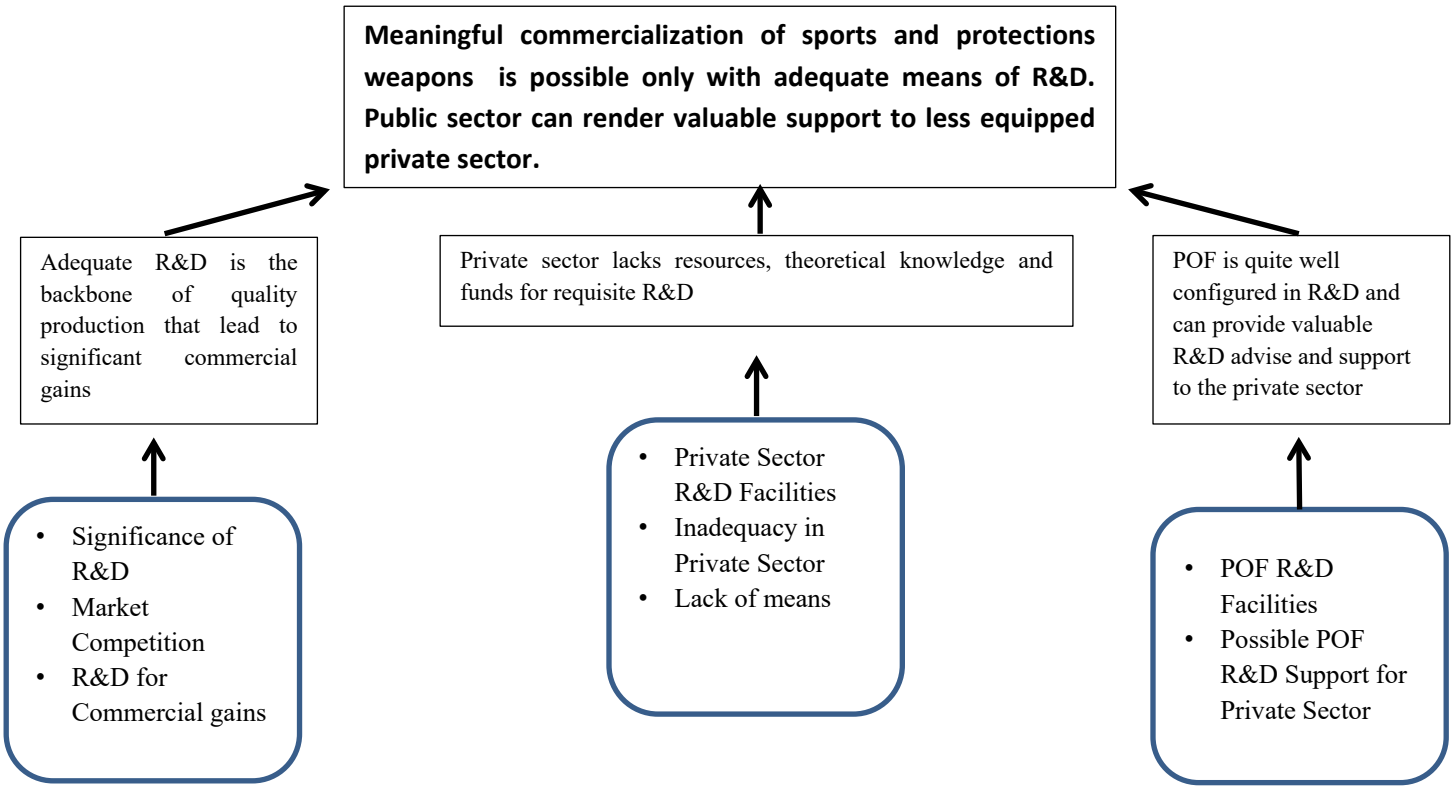
4.7.4 **Review of Theme 4.** This theme evaluates the prospects of public private partnership. POF is quite well equipped but is constrained in large scale production because its primary task is provision of arms and ammunition for the armed forces. On the other hand, private sector is quite huge in size but it fragmented and lacks modern production facilities. This theme evaluates how public private partnership can enhance the prospects of commercialization. Eleven codes and labels identified in the primary data have been collated into three patterns. The thematic map is drawn as follows:



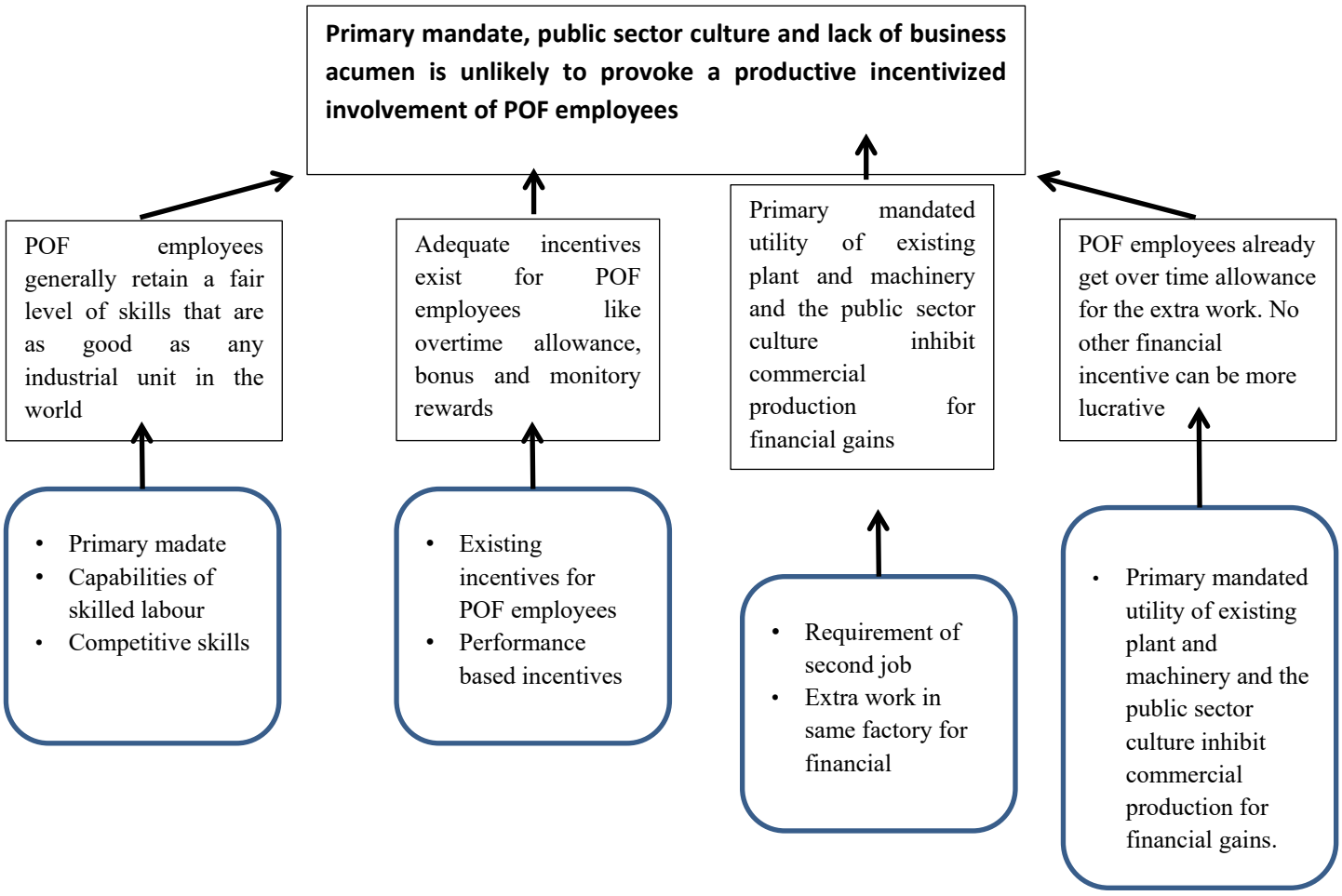
4.7.5 **Review of Theme 5.** This theme evaluates the effects of bureaucratic hurdles on commercialization of sports and protection manufacturing industry. Although the private sector is primarily affected by such hurdles, but the bureaucracy affects public sector (POF) as well. Lengthy bureaucratic channels and complex procedures that exist in POF at times retard the commercial activity. Available information in the primary data has been grouped under ten codes / labels. Combination of related codes resulted in formation of three patterns, leading to theme number 5 that corresponds to fifth research question. The thematic map is drawn as follows:



4.7.6 **Review of Theme 6.** Theme 6 is related to the significance of Research and Development (R&D) in commercial production of sports and protection weapons. In the competitive corporate world, significance of R&D cannot be over emphasized. The primary data collected during the research suggests that adequate realization about the importance of R&D exists in POF and large private industrial units. Small scale manufacturers do not have any wherewithal for R&D. Eight codes identified in the primary data have been collated to four patterns. These patterns transform into Theme 6 that corresponds to research question 6. The thematic map is drawn as follows:



4.7.7 **Review of Theme 7.** Theme 7 is the last theme of the study and is focused on incentivized involvement of POF employees in commercial production. POF surplus capacity coupled with willing involvement of the work force could result in commercial gains. This aspect has been studied as a moderating variable because willing involvement can boost production. Willing involvement has to have some tangible monitory incentives. However, during the course of data collection, this probability seemed less likely. Nine codes identified in the primary data have been collated into four patterns. These patterns transform into Theme 7. The thematic map is drawn as follows:



5.8 **Thematic Analysis Step 5 & 6– Defining Themes and the Write Up**. This step involves 'refining and defining' the themes. Detailed analysis is required to enhance the identified themes further. At this point, a unified story of the data needs to emerge from the themes (JVR Africa, 2016). The researcher carries out a detailed analysis of each of the themes by describing what the theme is about, how it corresponds to research objectives and does it answer any research question. This step can easily overlap with the next step, the write up, wherein the researcher compiles all the information obtained and the interpretation. The themes identified in this research are defined and narrated as follows:

5.8.1 **Theme 1 – Adequacy of Existing Sports and Protection Weapons Production Capability in POF and the Private Sector for a Profitable Arms Trade.**. This theme is about the existing production capability in POF and the private sector in focus category and the probability of achieving profitable commercialization. The codes identified in primary data lead to four patterns:

- POF capacity and policy for commercial production of sports and protection weapons does exist for commercialization.
- Private sector is quite wide spread and substantial in size but is fragmented and lacks technological edge
- A sound industrial base for manufacture of sports and protections weapons exists in Pakistan
- There are numerous prospects and potentials for commercialization of sports and protection weapons, both inland and abroad

While POF mandate is to manufacture arms and ammunitions for the armed forces of the country, it has reasonable surplus potential and a policy framework for commercial production. The private sector is also quite broad based, sizeable and well established. The industrial base required for commercialization does exist. It gets established in this theme that the capability and potential for commercial manufacture and export of sports and protection weapons does exist. The theme is therefore defined as, **Existing production capability in POF and the private sector can be transformed into a profitable arms trade.** It corresponds to and answers research question 1.

5.8.2 **Theme 2 – Shortfalls at Policy Level that Lead to Scant Commercialization.** This theme evaluates existing state policy on the subject. A stated government policy does not exist for this particular industry. Although a department named Pakistan Hunting and Sporting Arms Development Company (PHSADC) is established under the Ministry of Industries and Production, its role is rather

dormant. A research participant viewed that , "*PHSADC is mandated to promote hunting and sporting products in Pakistan and in the international market. Its office is located in Peshawar. It does provide a platform for arms manufacturers and is helpful in arranging various exhibitions inland. However, its contributions are not very significant for policy level changes or exports.".*

Primary data relevant to this theme has been compiled in three patterns as under:

- Shortcomings exist at the policy level that impact the commercialization of sports and protection weapons.
- There exist a number of sureties and incentives expected / needed by the private sector manufacturers from the Government for sustained progress.
- Export policy fundamentals for national earning need to be introduced for any meaningful commercialization

The role of concerned government department, Pakistan Hunting and Sporting Arms Development Company (PHSADC) is rather dormant in development of this industry into a profitable trade. Government needs to craft a well-rounded policy to promote this industry with adequate sureties and incentives. Once established on modern lines, this industry has the potentials to substantially contribute towards national earnings. This theme is defined as, **Policy level shortfall exist that lead to scant commercialization of sports and protection weapons. These shortfalls can be overcome by correct policy changes and make it a profitable industry inland and abroad.** Specific actions required to be taken have been identified and will form part of the recommendations. This theme corresponds to and answers research question 2.

5.8.3 **Theme 3 – Impact of Sanctions**. Sanction on import of raw materials and latest technology negatively impact this industry. This industry is facing stagnation and retardation. It revealed during the IDIs that local manufacturers do arrange the raw materials – either through sub-standard scrap or import from China, but import of plant and machinery is extremely difficult from abroad. The issue is common for the public as well as private sector manufacturers.

The collected data forms following four patterns:

- Pakistani manufacturers cannot compete with renowned international brands.
- Replica production stagnates this industry.

- Sanctions on import of latest manufacturing technology and its heavy cost stall the meaningful development.
- Negative perception about country inhibit commercialization.

In nutshell, the sanctions impact progress of this industry because of non-availability of latest technology. The theme is defined as, **While raw materials are generally available in Pakistan, the latest manufacturing technology is not available due to non-viable costs and sanctions imposed. It negatively impacts the prospects of commercialization of sports and protection weapons.** It corresponds to and answers research question 3.

5.8.4 **Theme 4 – Public Private Partnership**. Theme 4 is about public private partnership. Prospects and potentials exist both in public and private sectors. Both have inherent strengths and weaknesses. While POF is well equipped with lot of facilities and adequate funding, they are constrained due to their primary mandate of providing arms and ammunition to the armed forces. Their focus is more on the mandated task rather than any commercial output for financial gains. The public sector culture as in vogue in state owned enterprises like PIA, Railways and other government departments plagues their output as well. On the other hand, the private sector is decades old, sizeable and wide spread. They are victims of a perception that weapons bring destruction only. State did not take due steps for the progress of this industry. The private industrialists have numerous limitations. Lack of resources is on top. A partnership between these two sectors might be a way forward for this industry.

Following patterns emerged while formulating this theme:

- Excellent craftsmen skills and broad base in private sector coupled with production facilities in POF can be harnessed for better commercialization.
- POF has collaborated with a Turkish arms manufacturer SARSILMAZ. They may consider doing so with local manufacturers. Public sector collaboration with private sector can result in large scale high quality production.
- Tangible support by POF for private sector manufacturer for a quick start.

This theme is thus defined as, **POF is well equipped but constrained in large scale production in focus category while private sector has potentials for large scale production but lacks latest production facilities. Correctly configured public – private partnership can boost commercialization.** It corresponds to and answers research question 4.

5.8.5 **Theme 5 - Bureaucratic Hurdles**. Theme 5 is related to the bureaucratic hurdles that unfortunately exist in most daily life matters and has been accepted as a fate accompli. Interestingly, the bureaucratic hurdles exist in the public sector (POF) as well as private sector. Lengthy bureaucratic channels and complex procedures that exist in POF at times retard the commercial activity. In the words of a senior POF officer, *Bureaucracy in POF is oversized and underutilized. Long internal bureaucratic channels and lack of business acumen is a major issue.* For the private sector, numerous bureaucratic hurdles exist. These include difficulty in issue of arms licenses to potential users, interprovincial movement of weapons, import / export licenses and large number of government regulatory bodies are the major ones.

The patterns identified in the study with particular reference to the bureaucratic hurdles include:

- Long bureaucratic channel and numerous overheads in POF make their costs commercially unviable.
- Private sector constrained due to numerous bureaucratic hurdles.
- Government facilitation and control over bureaucratic hurdles will multiply commercialization.

If we take the example of obtaining export license by a domestic industrialist as narrated in the primary data, the procedure is lengthy and difficult. It involves following steps:

- When an industrialist receives an import from abroad for hunting & sporting arms, he need to get The Import Permit received from importer & ammunition, along with End User Certificate printed on importers official letter head.
- The Exporter in continuation, submits the whole package (Purchase Order including detail of products, Packing, Quantity, Import permit and EU Certificate) received from the Importer to MoDP for further processing regarding issuance of Export NOC.
- MoDP forwards the submitted importation documents to Ministry of Foreign Affairs (MOFA) for verification. After verification of import documents, MoDP then issues NOC/PERMIT FOR EXPORT OF DEFENCE PRODUCTS.
- The whole process till issuance of NOC for Export takes months.

All these issues are apparently regulatory measures but become bureaucratic hurdles because it is very difficult to move a file in a government department. Possibility of one window operation may be through Pakistan Hunting and Sports Arms Company can significantly ease up the problems being faced

by domestic exporters. This theme is thus defined as, **Bureaucracy affect commercialization negatively, both in public and private sectors.** It corresponds to and answers research question 5.

5.8.6 **Theme 6- The Existing and Desired Level of R&D**. This theme is related to the significance of R&D in the industrial production of sports and protection weapons. Adequate awareness about this important facet of industrial production does exist in the public sector and large scale private manufacturers. But the small scale manufacturers are not even aware of this important aspect of production. Most small scale manufacturers use traditional ways of production which are age old. They did acquire adequate expertise in making copies of renowned international brands but without accuracy, precision and reliability. This culture of copying further stagnated this industry.

R&D is extremely expensive. Only public sector can truly afford it. Adequate R&D resources exist in POF. Only a few large scale private manufacturers have some form of R&D cells while most are void of any such facility. POF can render some valuable support to the private sector manufactures in view of their paucity of R&D resources.

Following patterns have been identified under this theme:

- Adequate R&D is the backbone of quality production that lead to significant commercial gains.
- Private sector lacks resources, theoretical knowledge and funds for requisite R&D.
- POF is quite well configured in R&D and can provide valuable R&D advise and support to the private sector

This theme is thus defined as, **Meaningful commercialization of sports and protections weapons is possible only with adequate means of R&D. Public sector can render valuable support to less equipped private sector..** It corresponds to and answers research question 6.

5.8.7 **Theme 7 – Impact of Incentivized Involvement of POF Employees**. Incentivized involvement of the work force has been profitably introduced by some industrialists in Pakistan and abroad. Its spirit is additional income for additional production works. POF has huge infrastructure and reasonable surplus potential. POF employees mostly do second job after their work hours in the factories. It was evaluated whether it was possible to offer them monitory incentives for additional work hours in the same factories for commercial production. POF officers and workers did not seem interested

in such a development. Existence of attractive over time allowance, prevalent public sector culture and a possibility of negligence towards primary task have been identified as some of the reasons. The collated data suggests that instead of using current workforce, additional manpower will be required.

Following patterns were identified under this theme:

- POF employees generally retain a fair level of skills that are as good as any industrial unit in the world.
- Adequate incentives exist for POF employees like overtime allowance, bonus and monitory rewards.
- POF employees already get over time allowance for the extra work. No other financial incentive can be more lucrative.
- Primary mandated utility of existing plant and machinery and the public sector culture inhibit commercial production for financial gains.

This theme is thus defined as, **Primary mandate, public sector culture and lack of business acumen is unlikely to provoke a productive incentivized involvement of POF employees.** It corresponds to and answers research question 7.

CHAPTER 5

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

6.1 **Introduction**. The outcomes of the research work have been compiled in the previous chapter. Now is the stage of drawing relevant conclusions and making recommendations. It is an established fact that Pakistan's economy is weak and getting weaker with each passing day. Moody's recently changed Pakistan's Economic Outlook to Negative from Stable. Imran Ali Kundi notes in an article published in The Nation that the decision to change the economic outlook to negative is driven by Pakistan's heightened external vulnerability risk and uncertainty around the sovereign's ability to secure additional external financing to meet its needs. Pakistan's weak institutions and governance strength adds uncertainty around the future direction of macroeconomic policy, including whether the country will complete the current IMF Extended Fund Facility (EFF) programme and maintain a credible policy path that supports further financing (Kundi, 2022). Pakistan needs to explore every avenue that can help enhance its production potentials. Industrial production of sports and protection weapons, being a workable option, has been explored in this research. The current situation with particular reference to this option is not very encouraging. MoDP has mentioned in its Two Years Performance Report 2018-2020 that defence product exports of Pakistan exceeded US$ 250 Million (MoDP, Two Years Performance Report, 2021). Production cost is included in this US$ 250 Million so it is not the net profit. Given the size, state patronage, capacity and potentials, this figure is rather modest. The shortfall can be attributed to inadequate commercialization that needs to be addressed.

In this chapter, an effort will be made to address the main issues and outline measures that can assist in transforming this old and fragmented industry into a modern and coherent sector. This chapter has been divided in two parts. Part 1 pertains to the Analysis, Findings and Conclusions of the research. In Part 2, recommendations have been proffered. An effort has been made to address the research objectives identified at the onset of this research work in the given sequence.

6.2 Part 1 - Discussion, Findings and Conclusions

6.2.1 Existing Production Capability.

First research objective and corresponding research question was to evaluate existing level of arms manufacturing in Pakistan. In an article published in National Defence University (NDU) Journal 2012, Commodore Asif Majeed (Retired) notes that the activity of arms' production has dual significance, defence on one hand and economic growth on the

other as it is a profitable industry. Defence production should therefore be aimed at adequately equipping country's armed forces as well as developing export potential (Majeed, Defence Industry - The Options for Pakistan, 2012). It has been established in the research work through primary and secondary data that the existing production capability in POF and the private sector in focus category have reasonable probability of achieving profitable commercialization. The research findings indicate that in the public sector, POF has and advanced level of industrial capability with some surplus capacity as well. A policy framework in the form of POF Ordinance 1951 also exists to utilize the surplus production capacity of POF. This surplus capacity, however, is not quantifiable as it relates to the production targets given to POF by the armed forces for a particular year. If the production targets are lesser than the available production capacity in POF, that much surplus capacity for commercial production is generated. If the production targets are equal to or more than the production capacity of POF, commercial production may not possible. POF is therefore constrained in large scale commercial production because of the given mandate of providing arms and ammunition to the armed forces. Moreover, public sector culture does exist in POF (although to a lesser extent) like Pakistan Railways, Pakistan International Airlines and other government departments that impedes the prospects of commercialization.

It can therefore be concluded that the private sector will have to take the lead as far as the commercialization of sports and protection weapons is concerned. The private sector can steer profitable commercialization in the focus category because businesses flourish in corporate environment. Turkish model is very relevant here and has been studied in detail. The Turkish model is one great success story in this regard. Defense News article "How Turkey became one of the world's leading manufacturer of Weapon Systems" mentions that in the 1980s, several NATO allies began an effort to modernize their weapons systems, a movement Turkey joined enthusiastically. The country also sought to develop its own capability for weapons production to reduce its dependence on foreign manufacturers. In the years since, Turkey's success as a developer of weapons systems has led it to become a key supplier around the world. An essential element of Turkey's success has been its ability to take advantage of contributions from government and private industry. The government's Presidency of Defence Industries (SSB) was established in 1985, followed by the Turkish Armed Forces Foundation (TAFF) in 1987. TAFF holds majority shares of several key private defence companies in Turkey (Defense News, 2020). With its success in producing high-quality weapons systems for its own military, Turkey has advanced to exporting weapons systems to other countries. It supplies arms to countries in the Middle East and Far East as well as within NATO. The Turkish defence industry focuses not only on meeting

the demands of warfighters but also on developing new products like sports and protection weapons. With its joint production and technology transfer efforts to Kazakhstan, Kingdom of Saudi Arabia, Malaysia, UAE, Azerbaijan and Indonesia; defence industry of Turkey have also became a technology provider to various countries (Defense News, 2020). Alongside hard core military hardware, Turkey has developed a sizable protection and sports weapons industry as well. US and certain European countries had monopoly over production of shotguns and handguns. **Turkey started to produce matching quality weapons at much lesser cost**. Overtime, Turkish sports and protection arms have captured a reasonable market size. The exports of only one of their products, the shotgun, exceed US$ 120 Million per annum . USA is the biggest importer of Turkish Export Shotguns (Top Shotgun Manufacturers & Brands in Turkey, 2021). Turkey earns half of all defence exports of Pakistan (on the average) **only through export of shotguns**. Besides, Turkey is producing other sports and protection weapons in large numbers to include air pistols/air rifles, pistols, different bore sports rifles and their ammunition. Private Sector Guns and Arms market from Turkey include 220 manufacturing companies, 47 trading companies and 6 logistic / agent services companies, all in private sector (Ammo Terra, 2021).

In case of Pakistan, the private sector is decades old, broad based, sizeable and reasonably established. The industrial base required for commercialization does exist in Pakistan. By following Turkish model of production, Pakistan can bring this sector in its economic mainstream.

6.2.2 **The State Policy**. The nature of warfare had prompted a move away from large arsenals of traditional weapons to new innovative weapon systems. Production of protection and sports weapons is likely to enjoy an extended life time because of its non-aggressive nature and peoples' interest in most parts of the world (The Defence Industry in the 21st century, 2005). In Pakistan, due weightage to this important aspect of defense industry has not been given as yet at Government level. Second research objective and corresponding research question pertains to the evaluation of existing policy of Government of Pakistan on the this aspect. Numerous shortcomings at the policy level have been identified through in depth interviews and thematic analysis that undermine the prospects of commercialization of this industry. Primary and secondary data collected during the research process about the state policy revealed that Ministry of Industries & Production is responsible for policies related to industries. They have stated government policies about a number of industries like Auto Industry Development and Export Policy, Mobile Device Manufacturing Policy, Fertilizer Policy etc. Unfortunately, they have not mentioned any policy about this industry on their web portal. However, a department named Pakistan Hunting and Sporting Arms Development Company (PHSADC) is

established under this ministry. A research participant viewed that *"Establishment of PHSADC is a step in the right direction. Its mandated role is development of hunting and sports arms industry. However, when you see their achievements, you do not find anything significant except arranging seminars and exhibitions or reverse engineering by the private sector manufacturers. I think facilitation of industrialists in the focused category is more important. Facilitation in interaction with government's offices, one window operation, incentives for industrialists, creation of export opportunities and ease of doing business inland are few important steps that need to be taken".*

Absence of a stated Government Policy for this industry is a major drawback. Private sector manufacturers expect incentives like facilitation in import of latest plant and machinery, status of small industry with subsidized provision of gas and electricity, confirm weapon manufacture orders (sureties) for law enforcement agencies like Police, Rangers, ASF etc, structural support like centralized arms testing facilities and dedicated industrial zones and facilitation in obtaining sports and protection weapons licenses for the general public. Most private arms manufacturers were of the opinion that POF can also provide meaningful support in R&D and quality assurance. Besides, some large scale private manufacturers also suggested that promotion by Pakistani embassies / missions abroad and participation in international exhibitions can enhance export prospects. A state policy is needed that should harness these aspects in a policy document.

Turkey has followed a correct policy and succeeded in drawing adequate economic advantages. Ikram Hoti mentions in his article in The Express Tribute that a Turkish delegate who attended a seminar on defense production at Islamabad in December 2015 elaborated how the model of engaging the private sector in defence production worked in Turkey, he said the sector operated in coordination with various chambers of commerce and industry (Hoti, 2015). Alongside hard core military hardware, Turkey has developed a sizable protection and sports weapons industry as well.

In order to attain requisite dividends of defence production, Pakistan may consider following relevant points in the Turkish model. In our case, the potentials and prospects of the private sector have not been harnessed through a state policy as Turkey did. There is no prominence of private sector weapon manufacturers in the stock markets. The Government department 'Pakistan Hunting and Sporting Arms Development Company (PHSADC)' should facilitate the private sector in interaction with government's offices, one window operation, introduce incentives for industrialists, creation of export opportunities and ease of doing business inland. This department should be tasked to prepare a state policy on the subject after obtaining detailed input from all concerned stake holders.

6.2.3 **Impact of Sanctions**. Impact of sanction on import of raw materials and latest technology for this particular industry has been studied as the third research objective and the corresponding research question. Local manufacturers do arrange the raw materials – either through sub-standard scrap or import from China, but import of plant and machinery is extremely difficult from abroad. Main reason being international sanctions imposed against Pakistan by the US and the West for geopolitical arm twisting. Some European countries have imposed sanctions due to baseless negative perception about Pakistan Even POF faces difficulties in import of latest plant and machinery. As mentioned in the thematic analysis, one of the ex-Chairman POF had this to say, "*During my tenure as Chairman POF, we tried to import latest H&K small arms production plant from Germany. They refused saying small arms were weapons of mass destruction in their reckoning. The logic given was that more peoples are killed with small arms than hardcore military munitions.*

This industry is facing stagnation and retardation because of lack of latest technology. Thematic analysis substantiates that the Pakistani manufacturers face serious disadvantage when pitched in competition with renowned international brands. Step 2 and 3 of thematic analysis amply highlight that the superior metallurgy, Superior raw materials and Cutting Edge Manufacturing Technology as available to renowned interational brands are not available to Pakistani manufacturers. They have to rely on inferior raw materials and rudimentary plant and machinery. Consequently, the local industry revolves around replica manufacturing. Very few industrialists endeavor to make their own patent. Transfer of technology is either not possible or too expensive to afford.

In this situation, the government has to step in and take numerous mutually supportive steps to help local arms manufacturers. Contesting international sanctions is beyond private sector. Government needs to activate foreign mission / embassies to offset the impact of sanctions. Friendly countries like Turkey can be approached at the state level for finding suitable alternatives.

6.2.4 **Public Private Partnership**. Fourth research objective and the corresponding research question pertained to the evaluation of the prospects of public private partnership. The research finds that the prospects and potentials exist both in public and private sectors. Inherent strengths and weaknesses also exist in both the sectors. While public sector is well established, well equipped and adequately funded, the public sector culture and focus on primary mandate retards the prospects of commercialization. The private sector is broad based and decades old with excellent craftsman skills but is fragmented and ill equipped. A well-orchestrated blend can help offset weaknesses and capitalize on

strengths. POF is under strength in manpower but has best plant and machinery in Pakistan for small arms manufacture. The quality control and Research and Development (R&D) facilities in POF are also best in the country. On the other hand, private sector is wide spread but rudimentary in production facilities with very limited R&D and quality control mechanism. It can be seen that the weaknesses in one sector are strengths in the other and vice versa. A well configured partnership between these two sectors can help attain commercialization in sports and protection weapons inland and abroad.

Correctly configured public private partnership can enhance the prospects of commercialization in the focus category. POF collaborated with a Turkish private arms manufacture "Sarsilmaz" and imported their products to include shotguns, Pistol ST 9 and Pistol B6 (both 9mm). These weapons have been commercially sold extensively in Pakistan with the name POF – SARSILMAZ through POF commercial window Wah Industries Limited (WIL). Similar collaboration with local manufacturers is possible and should be resorted to. In such a model, some renowned local brand can produce a weapons with all possible help from POF, address shortfalls (if any) after extensive test / trials and market it as a joint product of POF and that local brand. This will boost the confidence, earning and promotion of local industry. POF can go a step ahead and make critical weapons components for the private arms manufacturers. Barrel is the most important component of a weapon. Plant and machinery for the manufacture of best quality barrels is held with POF. Local manufacturers displayed their desire in IDIs to purchase POF manufactured barrels till the time they attain the suitable plant and machinery. POF can manufacture barrels as per their demands and sell on commercial rates. Moreover, R&D facilities in POF are best in the country. POF can render R&D advice as per the requirements of private manufacturers. Similarly training and implementation of quality control regime in the private sector is also possible on lines of POF. A cell in POF can be raised to provide institutionalized support to the private sector.

6.2.5 **Bureaucratic Hurdles**. Fifth research objective and the corresponding research question was to identify the existence and impact of bureaucratic hurdles. As in any other walk of life in Pakistan, bureaucratic hurdles exist for the industrialists in the focus category. The private industrialists mentioned in the IDIs that they find it difficult to obtain permission for interprovincial transportation of weapons, import licenses for the raw materials and export licenses for finished products. For interprovincial transportation, they need to approach both provincial governments and the federal government. In order to obtain an export license, they obtain purchase order including detail of products, Packing, Quantity, Import permit and EU Certificate from the purchaser abroad, send all these

documents to MoDP for export NOC . MoDP then forwards the case to MoFA who issue NOC after verification from concerned country. The case is then sent back to MoDP who then issue the export license. Being a sports item, the NOC can easily be processed through Ministry of Commerce only. The private industrialists also raised significant concerns about issuance of arms license to general public. Arms licenses remain banned most of the time. Even when the ban is lifted, a common person finds it very difficult to obtain an arms license for hunting, sports or protection weapon. This aspect adversely affects their potential sales. The lesser the number of license holders, the lesser the sale of weapons. While following due precautions as in vogue, government, should facilitate issuance of arms licenses.

Bureaucratic hurdles exist in POF as well, although in another form. Lengthy bureaucratic channels and complex procedures retard the commercial activity. In the opinion of an ex-Chairman POF, their bureaucracy is oversized. Meaning more number of employees against a lesser requirement. Expenditure on account of their pays, allowances and other perks is added as overhead on the production costs. Consequently, the production costs increase significantly. With countries like Turkey and China in competition who have introduced very reasonable rate for their products, high production costs will decrease the prospects of domestic sales and exports.

Government bodies like PHSADC can provide a platform for one window operation for the private industrialists. All their correspondence with government departments can be routed through this platform with well-defined time lines for the complete process. This will significantly reduce the bureaucratic hurdles that exist for the private industrialists.

6.2.6 **Significance of R&D**. This was sixth research objective and the corresponding research question. R&D is quite expensive as it involves all the steps from conceiving an idea to making a prototype product. The components are required to be designed, tested, trialed and redesigned for a quality product. Importance of R&D is well understood in POF and a few large scale private manufacturers. POF has a well configured R&D cell, headed by a qualified officer of the rank of Brigadier who normally holds a PhD degree in a relevant subject. In the private sector, however, R&D effort is quite elementary in nature. Some major industrialists have the ideas of R&D but do not have adequate resources or facilities. The small scale private manufacturers are not even aware of this important aspect of production. This has resulted in a culture where a renowned brand product is copied using local production facilities. They have attained fair expertise in doing so and can make good copies of renowned international. However, the important aspects like accuracy, precision and reliability are often compromised owing to inferior materials and technology.

POF has a well-established education and training institution named POF Institute of Technology (POFIT). Some seats for private arms manufacturers can be kept reserved for imparting requisite knowledge about R&D including practical training. POF has completed research works about pistols and long range hunting rifles. This information can be translated and made available to the private industrialists.

6.2.7 **Incentivized Involvement of the Work Force in POF**. This aspect was evaluated as a moderating aspect corresponding to the last research question. Incentivized involvement of the work force can be instrumental in enhancing productivity and curb inefficiency. POF employees mostly do second job after their work hours in the factories. It was evaluated whether it was possible to offer them monitory incentives for additional work hours in the same factories. Few large industries in Pakistan like Engro have tested a model wherein they started paying certain share of additional production to the employees involved in that particular production work. They could significantly enhance their production and created an environment of a healthy competition aimed at enhancing production.

The research findings were interesting in case of POF. Working overtime is a common practice in POF. Overtime allowance is paid that is more than the primary pay package. Production targets that are given to POF by the armed forces are not completed in routine working time. Almost always, the production targets are completed after employing factory workers on maximum permissible overtime. Actually no additional time window is available for extra commercial works. The input received from POF officers in the IDIs suggested that additional manpower should be recruited in case any such commercial production was desired.

There is yet another issue of public sector culture. In almost all government departments of Pakistan, an excellent job security exists. The performance accountability, on the other hand, is mostly ineffective. Mr Muhammad Nadeem Butt, ex Director National Vocational and Technical Training Commission wrote in an article published in Dawn “There are about 200 state-owned enterprises (SOEs) in Pakistan engaged in all important sectors of the economy having total assets base of more than Rs1,150 billion. The only visible contribution these SOEs make to the Pakistan’s economy is employment of 0.5 million people at a staggering loss of about 400 billion rupees to the national exchequer per annum. Their proverbial mismanagement and operational inefficiencies (public sector culture) have touched unimaginable heights. They have caused an accumulated loss of more than Rs1,600 billion to the national exchequer in the shape of subsidies, bailout package and financial assistance” (Butt, 2019).

POF is also a state owned entity. It is being managed quite well when seen in comparison with Pakistan Railways, PIA or Pakistan Steel Mills. But public sector culture, somehow, does exist here as well. POF, however, can perform its supportive role for sports and protection weapons manufacture as outlined in this study.

6.3 Recommendations

6.3.1 **Existing Production Capability**. The industrial base required for commercialization of sports and protection weapons does exist in Pakistan. POF in public sector and arms manufacturers in private sector have decades of experience in the production works. Considering the overall capacity, business acumen and prospects of profitability, the private sector is considered appropriate to steer profitable commercialization in the focus category. POF should be tasked to provide technological assistance, R&D advice, quality assurance, training in POFIT and any other assistance as required by the private sector.

6.3.2 **The State Policy**. Government needs to introduce a policy framed in consultation of all the stake holders to promote this industry. Pakistan Hunting and Sporting Arms Development Company (PHSADC) should formulate a policy incorporating permissible sureties and incentives for private sector manufactures like confirm weapon production orders for law enforcing agencies, subsidies on electricity and gas and creation of economic zones with centralized testing facilities. Since the weapons in focus category are not for hard core military use, processing import / export applications through Ministry of Defense Production (MoDP) should be altered. These products relate more to sports. PHSADC should act like a bridge between the Government and the industrialists and provide a facility of one window operations. Turkish Government model wherein the private sector operated in coordination with various chambers of commerce and industry in sync with Turkish Armed Forces Foundation (TAFF) be evaluated in Pakistan's context and replicated to the extent possible. This policy should be duly reflected on the portal of Ministry of Industries and Production.

6.3.3 **Impact of Sanctions**. Sanctions are impacting commercialization. Government should consider taking requisite remedial measures to ward off this limitation. Pakistani embassies / missions abroad may be tasked to look for the alternatives when some purchase of technology is not allowed by any country / region because of sanctions. In case countries like Germany, UK or France are not willing to sell their technologies, options like Czechoslovakia, Austria or Turkey can be explored as alternatives. Government can also resort to diplomatic interactions when some sanction imposed on import of technology or raw materials.

6.3.4 **Public Private Partnership**. Institutionalized public private partnership can boost commercialization. There is a need to establish a cell in POF to provide institutionalized R&D and

quality control support to the private sector and meet other requirements like provision of ammunition for test / trials and barrel manufacturing. POF should undertake joint ventures like POF – SARSILMAZ with local manufacturers as a part of state policy for sports and protection weapons industry.

6.3.5 **Bureaucratic Hurdles**. The bureaucratic hurdles are impacting public as well as private sector. In POF, competitive market price should be taken as a yard stick while fixing the costs of manufactured products. Private sectors' concerns like issue of arms licenses to potential users, interprovincial movement of weapons and import / export licenses should be facilitated. Export licensing should be shifted from MoDP to Ministry of Commerce for handguns, air rifles and shotguns being sports or protection weapons. A one window operation for their facilitation should be introduced through PHSADC. PHSADC should interact with all government departments on behalf of private industrialists.

6.3.6 **Significance of R&D**. Importance of R&D cannot be over emphasized for commercial scale production of sports and protection weapons. Private sector is constrained in requisite R&D because of lack of resources, knowledge and funding. Government might consider giving loan for R&D related projects to private sector industrialists. POF should also be accessible to private sector industrialists for required R&D advice and training. Some seats may be reserved for local industrialists in POFIT (POF Institute of Technology).

CONCLUSION

7.1 Sports and protection arms industry is an old and established entity yet highly under-developed. There are numerous reasons which have been deliberated upon in this research. Every factor that contributes towards this under-development can be addressed with changes in policies and attitudes. First and the foremost requirement is to recognize this industry as a profitable sports gear manufacturing industry and not as destructive weapons production. Sports shooting events are enthusiastically organized across the globe with remarkable interest both from the participants and the spectators. The cost benefit equation is also highly favorable for the manufacturer. There are fewer countries in the world that have basic industrial structure as well laid out as ours. Well considered policy changes can help Pakistan produce quality products in the focus category, meet domestic requirements, curb weapons smuggling inland, find potential markets across the globe and earn reasonable foreign exchange through exports. Certain correct steps like establishment of PHSADC have already been taken. Further refinement and persuasion of state policy can help achieve the desired results. Lead role has to be assumed by the private sector with adequate support from the public sector that is, POF.

Annex A

INTERVIEW GUIDE

CONSENT FORM

I, the undersigned, declare that I am willing to take part in this research project entitled, **"Issues and Challenges to the Commercialization of Defense Production – a Case Study for POF".** The purpose of this study is to assess the commercialization of defense production in public and private sectors with focus on sports and protection weapons.

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.

- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.

- I am also aware that my participation in this study may be recorded (audio) and I agree to this. However, should I feel uncomfortable at any time I can request that the recording equipment be switched off. I am entitled to copies of all recordings made and I am fully informed as to what will happen to these recordings once the study is completed.

- I fully understand that there is no obligation on me to participate in this study.

- I fully understand that I am free to withdraw my participation at any time without having to explain or give a reason.

- I am willing/not willing to be identified as a participant in this study.

---------- ----------

Signature of Participant Date

Interview Details

Department: _____Interviewer(s):_____

Designation: _____ Name of the Institution: _____

Location: _____ Date: _____

Start of the interview: _____End of the interview:_____

Introductory Statement

Thank you very much for taking the time for this interview! I appreciate it a lot. First, let me introduce myself. I am **Liaqat Hussain**, an Mphil Scholar from National University of Modern Languages, Islamabad, Pakistan. The research study I am engaged seeks to find out the following enquiries:

- *Is existing production capability adequate for commercialization?*
- *What shortfalls exist at the policy level in commercialization of defense industry?*
- *How do sanctions impact commercialization of defense industry?*
- *Can public-private partnership boost international standard manufacture of weapons in focused category?*
- *How do bureaucratic hurdles affect the private sector?*
- *What is the existing and desired level of R&D in defense industry?*
- *Likely impact of incentivized involvement of POF employees?*

Hence, I will ask open questions on some topics of interest for our research. Please feel free to skip a question if you do not want to talk about a topic. We have as much time as your schedule allows for the interview.

Bridging card		
Defense industry is one the most profitable industries across the globe and it has played the role of a silver bullet for many economies. Given existing capabilities and potentials, can it be instrumental in attaining meaningful contributions towards national exchequer if properly commercialized?		
Priority	**Module**	**Entry Question**
1.	**Existing Production Capability**	*Is existing production capability adequate for commercialization?*
2.	**Shortfalls exist at the policy level**	*What shortfalls exist at the policy level in commercialization of defense industry?*
3.	**Sanctions impact commercialization**	*How do sanctions impact commercialization of defense industry?*
4.	**Public-private partnership**	*Can public-private partnership boost international standard manufacture of weapons in focused category?*
5.	**Bureaucratic hurdles**	*How do bureaucratic hurdles affect the private sector?*
6.	**Existing and desired level of R&D**	*What is the existing and desired level of R&D in defense industry?*
7.	**Incentivized involvement of POF employees**	*Likely impact of incentivized involvement of POF employees?*

Opening		
Could you please introduce your setup with particular reference to commercialization?		
Indicator	**Specifying questions**	**Neutral questions**
Commercialization	0.2. What are the commercial products being manufactured in your setup? 0.3. In your opinion, what prospects and potentials you have with regards to achieving commercialization, both inland and abroad? 0.4. To what extent do you think you have achieved the possible dividends through commercialization?	- what is the demand? - What is the quality of production? - What else? -What are the main hurdles?

Module 1:		
Is existing production capability adequate for commercialization?		
Indicator	**Follow-up questions**	**Specifying questions**
POF Mandate and production facilities	What is the primary mandate of POF? As an industrial complex, what are major constituents of POF? Is there any surplus capacity for commercial production? What specific production facilities exist in POF with regards to manufacture of sports and protection weapons?	What is the policy frameworks with regards to commercial utility of surplus capacity in POF?
Production standards	What is the standard and level of plant and machinery available with POF? What production facilities exist in the private sectors? What is the quality of production in private sector?	What is the production quality of POF manufactured small arms?

	Can we produce international standard products in this category?	
Arms manufacturing industrial base	How old is arms manufacturing industry in Pakistan?	Handmade sports weapons are extremely expensive. Can we produce competitive products in this category?
	Do we have a reasonable industrial base in Pakistan for industrial production of protection and sports weapons (shotguns, pistols, air guns and rifles)?	
	Can we produce international standard products in this category?	
Export probability	Is it possible that Pakistan finds a place in arms exporting countries in the focus category?	

Module 2: Shortfalls exist at the policy level		
1. *What shortfalls exist at the policy level in commercialization of defense industry?*		
Indicator	**Follow-up questions**	**Specifying questions**
State Policy Policy Requirement	Governments keep giving incentives to different industries, especially small industries. Was any such initiative ever given to sports and protection weapons manufacturers? POF is required to be run on sound commercial lines vide POF Ordinance of 1959. How is this particular clause being implemented? What are the challenges? What is the contribution of POFs commercial output towards national exchequer? Is there any surplus capacity? Which sports and protection weapons are being manufactured at POF? For instance, POF is not producing shotguns and air pistols / rifles. Can these weapons be added in POF production list?	Is there anything else? - What do you mean when you are saying….? - And then? - What else? - What other factors can you think of? What is the demand of POF manufactured sports and protection weapons in the local market? What is Turkish pattern/or any other else of government support to private sector? Can we implement such policies in Pakistan? What will be the likely dividends/policy outcomes of following Turkish model of

Shortfalls exist at the policy level	What is scale of manufacture, and does it adequately meet the local demands? Do we have any export orders for sports and protection weapons? What policy changes are required to make commercialization of sports and protection weapons a profitable preposition? What type of State Policy can trigger quality production in focus category? What are the challenges of policy making? What are the facilitators and barriers in the formulation and implementation of commercialization of defense industry?	sports and protection weapons production? What policy changes are required to make commercialization of sports and protection weapons a profitable preposition?

Module 3: Sanctions impact commercialization		
2.1. *How does sanctions impact commercialization of defense industry?*		
Indicator	**Follow-up questions**	**Specifying questions**
Sanctions on Commercialization of defense industry	Is there a problem of raw materials? Which sanction are incurred on Raw material? Can this industry be developed on the pattern of other small industries? What are the hurdles and national/international sanctions that are major hindrance to the policy? What are the limitations imposed due to international sanctions?	What are the Impact of these sanctions? Are there any alternatives? How does it disturb production line?

Module 4: Public-private partnership & Bureaucratic Hurdles		
3. Can public-private partnership boost international standard manufacture of weapons in focused category*?*		
Indicator	**Follow-up questions**	**Specifying questions**
Public-private partnership Surety? Price? Private producer surety? Subsequently	What is the production quality of sports and protection weapons being produced locally? Do we have requisite industrial precision in private sector production? Did government ever give weapon manufactures any incentives?if not , why not ? How can POF facilitate private sector manufacturers? Do we have requisite industrial precision in private sector production? If not? Why not? Did government ever give weapon manufactures any incentives? If not why not? What bureaucratic hurdles are confronted by private sector manufactures? Can private sector produce sports and protection weapons of international standards? Is there a problem of raw materials in private sector? How can POF facilitate private sector manufacturers?	What are the major differences in internally renowned brands and locally produced weapons? What is the skill level of craftsmen at local level? Reasons? Can this industry be developed on the pattern of other small industries? Specific Reasons? Are there any issues of licensing? Corruption? Red Tapism?

Module 5: Bureaucratic Hurdles		
3. *How do bureaucratic hurdles affect the private sector?*		
Indicator	**Follow-up questions**	**Specifying questions**
System at POF	Are there any bureaucratic hurdles confronted by POF?	
	What is the costing system in POF?	Do you think this cost is commercially competitive? If not, what are the reasons?
	POF Ordinance of 1951 suggests commercialization. Why it did not materialize that effectively?	
Regulatory bodies	What is the general response of state departments towards private sector weapons producers?	
	Which government regulatory bodies are to be approached by the private sector manufacturer for arms production?	
Bureaucratic hurdles	What bureaucratic hurdles are confronted by private sector manufactures?	

	Do bureaucratic hurdles inhibit private sector from producing international standard weapons in the focus category? Do you think that countries like Turkey also face such hurdles? Is there a possibility of one window operation for private sector arms producers?	

Module 6: Existing and desired level of R&D		
4. What is the existing and desired level of R&D in defense industry?		
Indicator	**Follow-up questions**	**Specifying questions**
Existing and desired level of R&D	What is the current level of R&D regarding commercialization in defense industry? What is the level of funding in R&D by the government and related institutions?	Can you give some examples? Research and development (R&D) include activities that companies undertake to innovate and introduce new products and services. What is the current innovation activities regarding research and innovation are being opted by your factory? Any initiatives to train private sector?

		Your suggestions? - Is there anything else? - What do you mean when you are saying….? - And then? - What else? - What other factors can you think of?
Module 7: Incentivized involvement of POF employees		
6. Likely impact of incentivized involvement of POF employees?		
Indicator	**Follow-up questions**	**Specifying questions**
Incentivized involvement of POF employees	If given tangible incentives, will the workforce participate willingly in manufacture of sports and protection weapons? What are some good incentives for employees to boost commercial weapons? Do you have some official incentive plans? Any example	- Is there anything else? - What do you mean when you are saying….? - And then? - What else? - What other factors can you think of?

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