# THE MARKET AND CONSUMER'S POTENTIAL TOWARDS THE USE OF READYMADE FOOD IN PAKISTAN

*By*

**Zahra Butt**
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**Dr. Nasir Iqbal**
**MPhil Economics**

**PIDE School of Economics (PSE)**
**Pakistan Institute of Development Economics, Islamabad**

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Pakistan Institute of Development Economics

# Pakistan Institute of Development Economics, Islamabad

***PIDE School of Economics***

## CERTIFICATE

This is to certify that this thesis entitled **"The Market and Consumer's Potential Towards The Use of Readymade Food in Pakistan"** submitted by **Ms. Zahra Butt** is accepted in its present form by the School of Economics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in Master of Philosophy in Economics.

Supervisor: Dr. Nasir Iqbal Signature: ____________

External Examiner: Dr. Junaid Alam Memon Signature: ____________

Head,
PIDE School of Economics: Dr. Shujaat Farooq Signature: ____________

# Declaration

I **Zahra Butt** hereby state that my MPhil thesis titled **"The Market and Consumer's Potential Towards the Use of Readymade Food in Pakistan"** is my own work and has not been submitted previously by me for taking any degree from Pakistan Institute of Development Economics or anywhere else in the country/world.

At any time if my statement is found to be incorrect even after my Graduation the university has the right to withdraw my MPhil degree.

Zahra Butt

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# ABSTRACT

The paper explored the change in consumption pattern and market potential of the readymade food in Pakistan. It employed data from Household Integrated Expenditure Survey (HIES) from 2011 to 2018 for estimating the expenditure share for twelve food groups. In addition, to explore the expenditure elasticities Quadratic Almost Ideal Demand System (QUAIDS) is being employed. The results indicated a change in consumption pattern towards high value and readymade food products from the traditional staple foods. Over the time, consumer acceptability and potential for high value food groups have increased, as the budget share for these being the highest among all the other food groups. Expenditure elasticities indicated consumers' potential to considerably increase the demand of high value and readymade food products with a slight reduction in prices and increment in their incomes. Among all the other food groups, demand for readymade food products is expected to increase the most with a rising household's income and price reduction. In a nutshell, Pakistan has an emerging market for value addition having tremendous growth potential to overcome domestic and international demand as well as generating millions of dollars of export revenue ultimately reducing the import bills. Consequently, government facilitation is required in terms of policies to support this growing buldge in demand that Pakistan can easily supply, especially those in which it still has edge over imports. One way of addressing the issue can be the construction of National Industrial Food and processing policy in the Pakistan. Though, the proposal for the formulation of the policy is still in its initial phase and requires a good amount of time. Whereas, tax breaks, provision of storage, modern pulping plants, modernized processing/ freezing technology, development of associations for industry coordination and standardization of food regulations and low cost packaging policy are some of the few recommendations to be considered in formulating the policy.

Keywords:

Readymade food, QUAIDS, Market Potential, Elasticity.

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| | |
|---|---|
| AIDS | Almost Ideal Demand System |
| HIES | Household Integrated Economic Survey |
| LED | Large Enterprise Development |
| MOI&P | Ministry of Industries and Production |
| PIDE | Pakistan Institute of Development Economics |
| SMEDA | Small Medium Enterprise Development Authority |
| QUAIDS | Quadratic Almost Ideal Demand System |

# CHAPTER 1

# INTRODUCTION

## 1.1 The Changing Consumption Pattern and Demand of Readymade Food

Over the last decade, the world has witnessed a transformation in the consumption patterns and food demand especially in the developing countries. There exist sustained patterns of under nutrition in rural and urban areas. However, over-nutrition and eating junk food has emerged in the middle and upper-middle-income household. The quest for good food and a need to provide adequate nutrition to one's family with all the available resources affect dietary preferences and eating behaviours (Kapur and Dunning 2008). The Food demand practices alter with the increase in economic development (World Food Outlook 1993). Moreover, regarding developed countries, Regmi et al. (2001) report an increase in the consumption of high-value processed food products in developed countries. Reardon et al. (2021) observe that due to the rise in the opportunity cost of time for men and women, the African population has increased the consumption of processed readymade food over the last fifty years. Many factors are responsible for these changing patterns, e.g. changing food habits, marketing and advertisement, innovative kitchen technologies, nuclear families, dual-income households and women's employment (Devine et al. 2006; Musaiger 1993; Praddepa and Kavitha 2013). In addition different demographic and socio-economic factors (age, income, education, social status, family size, family structure, geographical location, etc.) along with increased varieties of available food due to innovations and liberalization have an impact on impact food consumption patterns (Haider and Zaidi 2016). These factors are deriving the demand for ready-made food in many developing countries, including Pakistan and have led to the growth of processed and manufactured food industries.

### 1.1.1 Global Market Size of Ready Made Food

Owing to the changing food demand and consumption pattern, it is of immense importance to understand the nature and dynamics of the readymade food for the formulation of a reasonable food policy and investment in the respective segment of the food industry. Readymade processed food market globally, is expected to grow at a rate of 5.98% during 2021-2028[1]. Moreover, this industry experienced a rising demand over last past years due to the pandemic as most of the countries imposed strict lockdowns and people were mostly working from homes.[2] Whereas up till 2007, the global readymade processed food industry annually expended at a rate of 3.4%.[3] As per the distribution mechanism is concerned, malls and supermarkets served to be the most common distribution channels in global readymade food market contributing 70 % in the total growth of the industry. In addition to a report by Datamonitor, the processed food market expanded at a rate of 3.5% in the last few decades. The highest sales were being witnessed in the segment of processed readymade pizza and meat products. These products were found to be having largest share in the overall value of the market sales and generated largest revenues in the last few decades as well.[4] Moreover, it was predicted that in the years to come the market of processed food will show a tremendous growth in all the product categories and will grow

[1] https://www.fortunebusinessinsights.com/frozen-food-market
[2] https://www.fortunebusinessinsights.com/frozen-food-market
[3] http://www.globalbusinessinsights.com
[4] http://www.datamonitor.com/store/Product/frozen_food_global_industry_guide

by 19% since 2010. The market size of readymade processed food is further analysed by region in the figure 1.1 below.

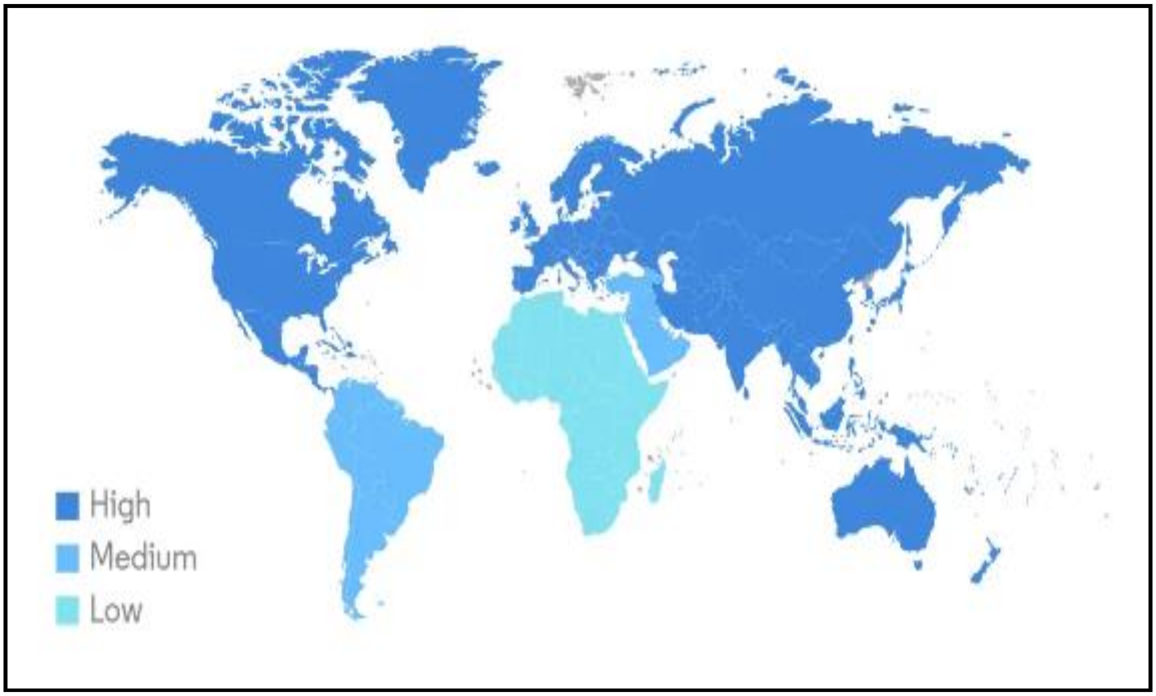



***Figure 1.1**: Ready Made Food Market size by region, 2021*

**Source**: Ready to Eat Food Market- Growth, Trends, Covid-19 Impact and forecasts, 2021

It shows about 34.2% of the global market sales were captured by Asia-Pacific countries that was lately followed by European countries from the period of 2007 till date. It was mainly due to ready to eat pizza and breakfast products that were found to be much cheaper and easily accessible over the region. Whereas in 2011, the ready to eat meat products contributed 41.3% in the global market sales (Arifeen, 2012). This increasing demand of readymade food products in Asian countries is attributable to the convenience factor and rise in the female labor force participation rate. In a household, women make decisions on what meals to cook on daily basis. Owing to changes in the labor force dynamics, consumption patterns have changed. Working women do not have enough time to cook from scratch. The food preparation and consumption have a direct impact on time allocation and home production takes a lot of time. Women make the majority of food decisions, hence they are the primary purchasers of readymade meals (Redman, 1980). The global processed food market is divided into segments as per its share in the total market sales which is shown in the figure 1.1 below.

**Table 1.1:** Processed Food Market Segments, % share by value, 2010

| Category | % Share |
| --- | --- |
| **Frozen Meat Products** | 41.3% |
| **Frozen Ready Made Meals And Pizza** | 31.1% |
| **Frozen Sea Food** | 9.4% |
| **Frozen Fruit and Vegetables** | 7.8% |
| **Frozen Bakery and Desserts** | 6.5% |
| **Frozen Potato Products** | 3.9% |
| **Total** | 100% |

Source: Datamonitor, 2010

The table 1.1 depicts that pizza and readymade meals contributed majority of the sale in the global processed food market. Whereas sea food and vegetables accounted for about 16.5% of the total market revenues. These global sales were projected to grow exponentially in the next few decades.[5]

[5] http://www.datamonitor.com/store/Product/frozen_food_global_industry_guide

### 1.1.2 The Changing Consumption Pattern and Demand of High value and Ready Made Food in Pakistan

Over the past three decades, developing countries have seen a structural change in the composition of agricultural trade, i.e. declining trends in traditional or unprocessed food exports towards increasing processed readymade food exports (Jongwanich 2009). Developing countries have an immense potential to meet the domestic and foreign consumer processed readymade food demand as they are enriched with sizeable domestic resource content that is closely linked to the rural agricultural sector (Athukorala and Sen 1998). Subsequently in Pakistan, readymade processed food demand and supply projected growth rate of 5.8% from 2020 till 2025[6] due to the various changing socioeconomic and demographic factors and has an immense potential for export as well. Pakistan, rich in farm resources and with a population of around 220 million people, has excellent potential to expand the processed food market. With the changing urban lifestyle and the advent of international wholesale, the pre-cooked and processed food market is expanding rapidly (Arifeen 2012).

The processing readymade food sector is found to be second largest sectors of Pakistan after textile sector. It is said to be the second main industry in Pakistan. As per its production is concerned, it contributes for about 27% of the production in the value addition products and generated 16% employment opportunities in the overall manufacturing sector of Pakistan. Moreover, the food processing industry was found to be the main contributor in the large scale manufacturing products in Pakistan. It accounted for about 12.37% increase in the manufacturing of the larger scale products (Arifeen, 2012).

[6] Ready to Eat Food Market- Growth, Trends, Covid-19 Impact and forecasts, 2021

Sugar, soft drinks and juices had shown tremendous growth in the food processing sector by 11%, 34% and 14%.  Pakistan can earn a lot of foreign exchange by exporting the diversified processed readymade products rather than the unprocessed raw products. The figure 1.2 shows the food processing trade of Pakistan for almost one decade (2010-2018). We can observe that 25 percent of food processing exports consist of prepared foodstuffs, beverages, spirits, vinegar and tobacco. However, the imports of the same items are 15 percent of total imports from 2010 to 2018. Similarly, 71 percent of the processed export consists of vegetables of various categorization i.e. frozen or ready to cook. However imports of vegetables are 36 percent of total imports from 2010 to 2018.

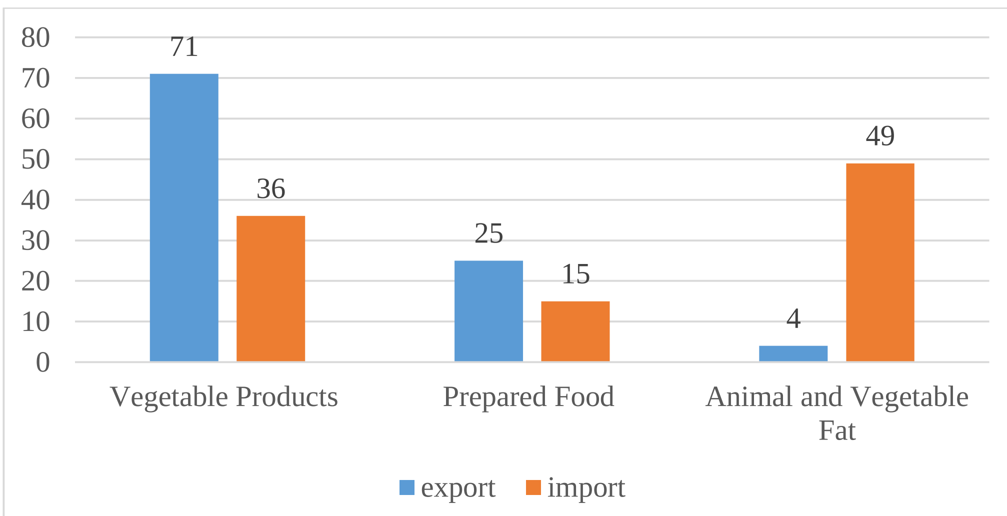



***Figure 1.2:** Pakistan Food Processing Trade, percentage (2010-2018)*

**Source:** Food Processing Sector Skills study, 2018[7]

Due to domestic and foreign consumers' high demand for the processed readymade food, Pakistan's market retains considerable growth potential. Businesses, especially small and medium enterprises, can draw on trends in the processed food market to identify ways to

[7] https://www.psdf.org.pk/wp-content/uploads/2018/11/Food-Processing-Report-1-1.pdf

realize this potential. Domestic demand for the readymade food is driven by the comfort factor of households and includes products such as kebabs, parathas, meatballs, sausages and breaded products [8]. With the changing consumption pattern, the demand for all such products have rapidly increased over the last past years and so as the no of producers. It is imperative to study this changing demand and supply patterns to keep pace with the changing consumer demand by diversifying the agriculture production. Agriculture is not realizing its full potential and requires major transformations in agricultural supply and value chains. The country needs investments in developing and improving agricultural value chains for quality, quantity, and loss reduction. This is essential not only to link the production to regular rise in consumer demand and enable farmers and other actors in the agricultural value chains to take advantage of new opportunities in the domestic and export markets but also to earn sizable additional foreign exchange and improve overall quality of diet and state of food security and other social objectives such as poverty eradication. Also Pakistan needs to invest in value addition. Rural-based processing is largely rudimentary and limited to sugar, rice-milling, and cotton ginning, while value addition facilities for high value agricultural produce, such as milk, the processing facilities are largely absent. Most fruits and vegetables, as well as a large portion of grains and oilseeds are traded in the wholesale agricultural markets. There are also several restrictive and non-transparent marketing arrangements which create large gaps between prices paid at retail outlets and what farmers receive. Lack of storage and processing facilities, along with opaque market practices cause massive fluctuations in prices. Improving the value chain of high value and water thrifty crops will create a market for these products and will also

[8] https://www.mordorintelligence.com/industry-reports/pakistan-frozen-food-market

reduce the price risks of the engaged farmers. Much of the enabling environment in Pakistan has focused on the production and supply side of the agriculture sector. Pakistan needs to pay more attention to the market demand for the attributes of products, especially those having high market value. It is therefore very important to understand and prioritize sectors where substantial demand exists, where there is possibility of substantial gain from resource use optimization and where there is significant export potential such one sector is of readymade food.

## 1.2 The Readymade Food Sector/Industry in Pakistan

As of globally the consumption patterns have also changed in Pakistan over the last ten years. Households have diversified towards high value added readymade food from the traditional staple food (Jalil, 2018).

**Table 1.2:** Producers of Readymade food by product categories

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Ice Cream Segment** | **Milk Based** | Walls by Unilever | Omore by Engro Foods | Igloo by Pakistan Dairy Products (Pvt), | Hico by Pakistan Fruit Juice Company (Pvt) Ltd | Yummy by Yummy Milk Products (Pvt) Ltd | --- |
| **Non Ice-Cream Segment** | **Meat Based** | K&N's by K and N Foods[9] | Mon Salwa by Quick Foods[10] | Menu by Seasons Foods[11] | Dawn Foods by Golden Harvests | PK by P.K. Meat and Food Company Ltd | Sufi, Sabroso & Big bird. |
| | **Vegetable & Fruit Based** | Icepac by Icepac Ltd | Fine Foods by Metro | ---- | ---- | ---- | ---- |
| | **Wheat Based** | Mon Salwa by Quick Foods. | Menu by Seasons Foods. | Dawn Foods by Golden Harvests | Super Fresh | Foodmart | --- |

[9] It includes both raw chicken and ready to eat chicken meals.
[10] It includes both raw chicken and ready to eat meals in all meat forms.
[11] It includes both raw chicken and ready to eat meals in all meat forms.

Source: Frozen Food Products Marketing and Distribution Challenges in a Developing country, 2012[12].

Due to the changing socioeconomic and demographic factors in Pakistan, the readymade food market is expected to grow at a rate of 3.58% from 2020 till 2025.[13] In Pakistan, there are many different segments of readymade food market as it is a very vast market based on product segmentation and type. Mainly the readymade food market is divided based on four categories two product types. The table 1.1 depicts the main producers of the Pakistan's readymade food market based on four product categories. These include dairy, meat, wheat, fruits and vegetable. Whereas, each division is further categorized into two products types such as ready to cook and ready to eat meals (Saleem, 2017). Many new producers have also evolved over the years, after analyzing the growth potential of this industry such as Sabroso, Meat one, Sufi and Big Bird.

### 1.3 Role of Government in in Regulation of High Value/ Readymade Food Industry

Government facilitation plays an important role in the development of any sector or industry. The irony is despite being an agricultural country along with an emerging readymade/ processed food sector, the country is unable to fully meet the changing demand for high value food products that it can easily produce and export, accounting for a very high import bill. So, it's a high time for the government to analyse the buldge not only in domestic but international market demand and to facilitate it by driving the focus of production from traditional low value grain products towards high value crops and readymade products (Ali, 2018). Traditional production systems, no proper planning and

[12] See References
[13] Ready to Eat Food Market- Growth, Trends, Covid-19 Impact and forecasts, 2021

lack of guidance about changing consumer demand and preferences to the farmers results in harvesting the same low value traditional crops. Similarly lack of processing and storage facilities results in the imports high value products every year by spending millions of dollars to fulfill the local demand (Nazir and Lohano 2022). Moreover, despite being an exporter of meat and poultry, the government's policy of importing of chicken under the FTA agreement signed with various countries such as Malaysia resulted in local business losses as most of the readymade food companies are eligible of meeting the requirements of multinational chains in Pakistan.

It therefore points to the fact that government action is required in terms of policies to support the production of high value and diversified products that Pakistan can easily supply especially those in which it still has edge over imports such as meat and poultry. The focus must be on the demand, based on the product's attributes such as high value and readymade products rather than focusing on the supply and production of the traditional grains having export potential (Ali 2018). So, analyzing the present scenario, the research will study through light on the role of regulatory authority in development of a growing sector.

### 1.4 Problem Statement

Changing consumption dynamics in Pakistan resulted in a growing research interest in food consumption patterns. Recently several studies have been conducted in this regard. Some such as Haider and Ziadi (2017) have analysed the consumption patterns among various commodity group levels and concluded the presence of diverse food patterns regionally and provincially. Yet there is another set of studies such as Iqbal and Anwar (2014) that focused on food consumption patterns across income groups. While these provide highly useful insights into food consumption patterns in the country and draw important implications for changing consumption patterns. However, they offer none or only scanty clues for variation in consumption pattern regarding high value and readymade food. Understanding this aspect may provide extremely useful signals for food markets in Pakistan and may increase the confidence of various entrepreneurs who can tap these signals to better fulfill these demands.

So, the present research will try to bridge the gap by throwing light on these areas along with the government's facilitation (if any) and food policy in enabling the newly emerging industry to reap its full potential.

## 1.5 Research Questions

- How consumption pattern is changed over past 8 years (2011-2019) from the traditional towards the high value foods in Pakistan?
- What is the market demand accountable for the changing consumption pattern toward readymade food in Pakistan?
- How is the readymade food market supply regulated in Pakistan? Is the market of readymade food well equipped to absorb the buldge in the growing domestic and international demand?
- Does government have the supportive legislation and policy to facilitate transition towards the changing consumption pattern?

## 1.6 Objectives of the Study

- To estimate the expenditure shares for the detail analysis of changing consumption pattern over 8 years (2011-2019).

- To estimate demand elasticities to understand changes in the market demand.
- To analyze the regulation and mechanism of readymade food market supply and challenges faced by the stakeholders.
- To analyze the government legislation and policy facilitating the transition towards the changing consumption pattern (if any).

## 1.7 Organization of Research

After the introduction session of conducted research, it is further divided into seven more chapters. Each of these chapters covers a certain aspect of the study and has significance of its own. Chapter 2 consists of literature review of past theoretical and empirical studies on the demand of readymade food. Chapter 3 gives an overview of the microeconomic foundations of the employed methodology, data and variables used in the analysis. Chapter 4 includes a detail analysis on the market demand of the readymade food in Pakistan. Chapter 5 provides the empirical results of Quadratic Almost Ideal Demand System by discussing the expenditure, compensated and uncompensated demand elasticities of readymade and other food groups at the country, provinces and regions level. Chapter 6 provides analysis of the need for constructing food processing policy in Pakistan. Finally, Chapter 7 concludes the research.

# CHAPTER 2

# LITERATURE REVIEW

Food is the basic necessity of human life. Analysis of consumer behavior and food demand is not new and dated back to 17th century with the formulation of demand schedule by (Stigler, 1954). Similarly, one of the most studied and discussed concept of consumer behavior is the allocation of budget by the consumers to maximize utility. Various economic theories and laws are found to through light on the consumer demand such as law of diminishing marginal utility which was the basis behind the construction of demand schedule. The most important work that further formed the foundation of studying the consumer demand functions extensively was the Engel's law. These form the basis of the analysis of food demand and diversifying consumption pattern. It is imperative to explore the food consumption patterns as consumption expenditures comprises of 80% of Pakistan's GDP. Moreover, exploring the consumption patterns is important to understand the changing dynamics of market demand and potential sectors (Blundell, 1988).

In order to analyse the changing demand and consumption pattern computation of food demand elasticities such as income and price elasticities serve as a basic step in the analysis of changing consumption patterns (Iqbal and Anwar, 2014). However, among the various types of demand functions suggested by the literature, there are mainly three types of demand functions used for the estimation of elasticities for individual and composite commodity groups. These include of single equation models, rigid system of equations and the flexible system of equations AIDS. To estimate the elasticity of various food groups, Ali (1981), Siddique (1982), Malik et al (1987) and Burney and Khan (1991) employed

Engle equation. Moreover Linear and extended linear expenditure system have been employed by Burney and Khan (1991) to estimate demand elasticity. The estimation of these demand functions are based on an unrealistic assumption that marginal utility of one good is independent of the consumption of the other good that pinpoints the flaws of these models (Deaton, 1975). Whereas, AIDS model was introduced by Deaton and Muellbauer (1980) and proves to be helpful in estimating demand elasticities as it is based on the assumption in which the share of budget is a function of total expenditure and relative prices that fulfils the flaws of the previous models. Burki (1997) used time series data for the analysis of income and price elasticities in case of Pakistan by employing the AIDS model. However, AIDS and LA/AIDS also have some flaws such as they don't capture the non-linear impact of income. Sometimes, it can be the situation that as the income of the consumer increases the good turns into a necessity from a luxury. So, AIDs model is unable to capture the non-linearity of income.

Due to these significant flaws Bank et al (1997) suggested QUAIDS, an appropriate model for estimating demand elasticities. Unfortunately QUAIDS is not well discussed and applied in Pakistan however it is widely used in the world for the estimation of consumer demand. In Pakistan, there is a dearth of literature on the estimation of consumer demand for readymade food by using any demand function especially QUAIDS model. A few studies employed this model such as Iqbal and Anwar (2014) used HIES (2010-2011) to estimate the demand and income elasticities by using QUAIDS for different food groups. Among the various food groups, it was found out that households have higher income and price elasticity for fruits i.e. households direct their consumption towards this food group and demand relatively as their proportion of income increases in Pakistan. Similarly

Abdulai (2002) uses QUAIDS to analyze the food consumption behavior of Swiss families and concluded that the expenditure elasticities for food groups such as fruits, vegetables and nonfood group were found to be greater than one. It indicates that reduction in the prices will lead to increase the demand and revenue for these food groups.

Nazli, H. et al (2012) estimated the future demand and supply cereals for the years 2010, 2015, 2020, 2025, and 2030 by using the Almost Ideal Demand System (LA-AIDS) for Pakistan for eight food commodities by using HIES. Whereas Ahmad et al (2015) estimated the regional consumption patterns in Pakistan by using the data of HIES for the year 1998-99. The research divided the households mainly into five income categories at national and provincial levels to estimate the expenditure elasticities of different food groups across the various income levels. The results of the study highlight that there exist difference in the regional consumption patterns and across various income groups. Households in the low level income groups spend a larger fraction of their income on wheat, pulses and vegetable while high income groups on rice, meat and fish, milk and milk products both in rural and urban areas.

Haider and Ziadi (2017) calculated the consumption patterns for the urban and rural areas of Pakistan for different fruits. Moreover, Jalil, A., & Khan, H. (2018) estimated consumption patterns and demand elasticities of some horticulture products in Pakistan at household level using the Quadratic Almost Demand System (QUAIDS) by using the Household Integrated Expenditure Survey (HIES) from 2000 to 2015. It was revealed that households have directed their consumption towards high value food groups from traditional such as Milk and Milk products, Fruits, Vegetables, Beverages and Readymade food and meat in Pakistan. Households have diversified consumption patterns and have moved towards high value added groups. As the consumption patterns are evolving in Pakistan, improving agricultural productivity and value addition is the need. Economies in the world have directed their agriculture production towards product mix and have invested in the value addition for product diversification to earn foreign exchange. However it was found out that Pakistan export intermediate and low value agriculture commodities at cheaper rates and imports high value products at the expense of thousands of dollars. The yields and quality of Pakistan's agricultural produce must be brought closer to the global averages that will aid in earning a lot of export revenue (Ali, 2018). As of Nazir & Lohano highlighted that agriculture in Pakistan is not well responding to the market signals and demand. It is only relying on a few traditional and low value crops as a result forgone export revenue. Pakistan as a country is importing such high value products that itself in a position of exporting or fulfilling the demand. Improving the agricultural value chain and investing in value addition can help the economy in earning million of dollars.

Globally, as the consumption pattern have evolved and consumers are more driven to purchase high value readymade food due to the easy and convenience it provides as highlighted by Jaafar, S. N. et al (2012). The study accessed the factors influencing the consumers' intention to purchase domestically produced readymade food product in Malaysia. The main extrinsic factors include price perception, packaging, advertisement and brand image. The intrinsic factors that are responsible for the change in the consumers' behavior include trust, familiarity and perceived economic situation. The research collected the data by questionnaire through convenience sampling. Descriptive statistics, comparing mean analysis and correlation and multiple linear regressions were employed for the analysis of data. Result shows that the most significant factor that influencing consumers' purchase intention towards the food products are ‘consumers’ attitude’ and ‘perceived price’.

Agbola, F. W. (2003) estimated the food demand patterns in South Africa using a linear approximate almost ideal demand system (LA/AIDS) modeling by using 1993 integrated national household survey data. The results show that demand for meat and fish, grains, dairy products, fruits, vegetables, and other foods are price elastic. The meat, fish and grains are found to be luxury items whereas dairy products, fruits, vegetables, and other foods are necessities for a household. It was found that with the increase in the income of households, food expenditure on meat and fish and grains would increase, whereas that on dairy products, fruits, vegetables, and other foods would decrease.

As mentioned earlier, there is a lack of literature that assess the consumer demand for specifically readymade processed food items in Pakistan. However, a few studies have estimated the factors contributing to the increasing trend in the demand by incorporating primary data analysis. Saleem et al (2017) investigated the impact of knowledge of the frozen food on the consumer’s buying perception toward the frozen food by employing data through a questionnaire of 279 frozen food customers in Multan. The various techniques to analyze the data were exploratory factor analysis, confirmatory factor analysis, and multi-group moderation. The results indicated that knowledge about frozen foods and the urge for change in the consumers were significant in forecasting the frozen food purchase. Moreover, it was also found out that family structure is a significant contributor that increases the frozen food purchase. The research is the only one of its kind that highlights the frozen food purchase behavior of consumers in Pakistan due to the changing social structure and shifting of joint family systems to nuclear family structures.

Sen and Sen (2021) investigated the factors that influence the purchase of readymade frozen food. It highlighted that the main contributor towards the change is mainly the increase in the women empowerment. The research gathered data through a questionnaire from 150 respondents and employed factor analysis methodology. The results of the study indicated that individual habits, attitudes, beliefs and values, age, education, income, marital status, are the most important socio-demographic factors influence consumer buying behavior of readymade food. It was found out that working class is the main purchaser of readymade food. In addition, gender; age; education level; family income; profession also have a positive impact on purchasing RMFF.

Hawa et al (2014) explored the factors influencing the purchasing and non-purchasing of ready to eat food by focusing the socioeconomic dynamics for the city of Ahmadabad. Data was collected by using quota sampling method from the respondents on different age, gender, occupation and marital status, education and income. The different intrinsic factors, extrinsic factors and socio-economic factors were found out in order to study in depth the most influential factors consumer buying behavior of readymade food. In order to analyze and interpret the data, including Chi-Square test were applied. The results suggest that 'Ease of Use' and 'Saving of Time' were the two most important factors that affect buyers of readymade food. Whereas the purchase intention was found to be dependent on age, income, marital status, education status.

Haider and Zaidi (2017), using data from the Household Income and Expenditure Survey, show that owing to variation in expenditure and price elasticities, consumption patterns differ across Pakistan. They find that poor households are more responsive to changing food prices and families substitute different food products to maintain their utility.

In a nutshell, after rigorously analyzing the literature there is a lack of understanding of the market demand side of the readymade food market in Pakistan. So the present research will contribute to the literature by studying the market demand side of readymade food market using nonlinear demand system (QUAIDS). However, it will also highlight changes in the market demand (consumption pattern) for readymade food and other food groups over the period of eight years to specifically study the changing consumption patterns across the country.

# CHAPTER 3

# DATA AND METHODOLGY

This chapter incorporates information about the data source, sorting, construction of variables on which the study is based as well as the methodology to fulfill the objectives of the study.

## 3.1 Data source and Dynamics

The micro data of Household Integrated Economic Survey of two round covering over the time span of almost 8 years (2010-2011 & 2018-2019) has been taken considering the objectives of the study. The household survey is carried out by the Punjab Bureau of Statistics, Government of Pakistan and it provides nationwide data on detail household related variables. The sample size of this survey is substantial enough to obtain concrete and robust results. The following table shows the details about the sample size of household for two different rounds of the surveys.

**Table 3.1:** No of Households in two rounds of HIES

| | **2010-2011** | **2018-2019** |
|---|---|---|
| **Pakistan** | 16,341 | 24,809 |
| **Rural** | 9,752 | 8,873 |
| **Urban** | 6,589 | 15,936 |
| **KPK** | 2,954 | 4,485 |
| **Sindh** | 2,335 | 6,216 |
| **Baluchistan** | 3,706 | 2,327 |
| **Punjab** | 6,954 | 11,781 |

Source: Household integrated Economic survey

**Table 3.2:** Average Household Size by Province And Region

| Area | 2011 | 2019 |
|---|---|---|
| Total | 6.38 | 6.24 |
| Urban | 6.19 | 5.97 |
| Rural | 6.49 | 6.40 |
| Punjab | 6.16 | 5.78 |
| Sindh | 6.39 | 6.23 |
| KP | 7.17 | 7.41 |
| Baluchistan | 7.08 | 8.12 |

**Table 3.3:** Average No of Earners per Household by Province And Region

| Area | 2011 | 2019 |
|---|---|---|
| Total | 1.84 | 1.86 |
| Urban | 1.75 | 1.75 |
| Rural | 1.89 | 1.92 |
| Punjab | 1.90 | 1.63 |
| Sindh | 1.86 | 1.80 |
| KP | 1.59 | 2.08 |
| Baluchistan | 1.65 | 2.14 |

## 3.2 Theory and Methodological Design

It deals with the quantification of consumption patterns based on the estimation of expenditure shares and demand elasticities for the readymade and other food groups at the national, regional and provincial level. Moreover, the research also explore the market regulation and policy formulation regarding food sector by conducting interviews from the big players of the market and ministry officials.

### 3.2.1 Expenditure Shares

The expenditure/consumption shares are estimated to analyze the changes in consumption pattern at national, regional and provincial level. The estimation of expenditure share will capture the potential of product diversification among the households of Pakistan for the readymade made and other food groups. The computation of expenditure/ consumption share is done as follows.

$$\text{Expenditure share} = M \,/\, N * 100 \tag{3.1}$$

Where

M = Total Household Monthly Food Expenditure of an item

N = Total Household Monthly Food Expenditure

### 3.2.2 Mechanism and Regulation of Readymade Food Market Supply

The research study have conducted the interviews[14] from the main players of the readymade food industry and ministry officials to explore the mechanism and regulation of readymade food market supply and policy facilitating the market. Moreover the interviews conducted also discusses[15] the market potential and challenges faced by the readymade food industry. In addition the interviews from the officials of Ministry of Industries and Production (MOI&P) discusses importance and construction of national industrial food policy in Pakistan. The formulation of a national food processing policy is one of the main segments of

[14] See Appendix B for the details of the interviewers

[15] Chapter No 4 is based on the qualitative assessment of the interviews from the main players of the market including the details of regulatory framework, market potential and challenges faced by the industry.

national industrial food policy as the market for readymade food has grown rapidly over the past few years and presently our country lacks one[16].

### 3.2.3 Estimating Income and Price elasticities

The literature highlighted three types of models for the estimation of elasticities. These include of single equation models, rigid system of equations and the flexible system of equations AIDS. To estimate the elasticity of various food groups, Ali (1981), Siddique (1982), Malik et al (1987) and Burney and Khan (1991) employed Engle equation. Moreover Linear and extended linear expenditure system have been employed by Burney and Khan (1991) to estimate demand elasticity but these models are unable to capture the non-linearity of income. Due to these significant flaws Bank et al (1997) suggested QUAIDS, an appropriate model for estimating demand elasticities. QUAIDS is not well applied in Pakistan however it is readily used in the world for the estimation of demand elasticities as it captures the nonlinearity of income. It is a flexible model that satisfies the properties of including additivity, homogeneity, non-negativity and symmetry as well. So, we estimate our demand elasticity for the readymade and other food groups on the basis of QUAIDS model.

The data sorting is the most important and crucial task for the estimation of demand elasticities based on QUAIDS model. The monthly household expenditure data was obtained from food expenditure data of HIES[17]. The total monthly food expenditure data was obtained for each household. In HIES, the food expenditure data is recorded based on 14 and 30 day recall period. So, the data was converted into monthly frequency from

[16] Chapter No 6 is based on the qualitative assessment from the interviews from the ministry officials based on the national industrial food policy assessment

[17] The data of food expenditure is taken from part "A" of HIES female questionnaire, section "6-F".

fortnightly. After the conversion, we added the monthly food expenditure on all the commodities to compute total monthly food expenditure of each household.

The next step is to identify and divide the food groups to estimate the expenditure shares and demand elasticities. We divided the expenditure into 12 food groups[18] such as cereals, pulses, readymade food, milk and milk products etc. In the next step we compute the expenditure shares for each food commodity and for each household by dividing the expenditure share with the total household expenditure. All the expenditure shares added upto one. Then we compute the unit values as representing the prices in our estimation by dividing the total monthly food expenditure with the total monthly quantity consumed of each commodity to obtain the prices.

QUAIDS is an extension of the Almost Ideal Demand System and it is based on the utility function given below. Moreover it help us to estimate expenditure, compensated and uncompensated price elasticities.

$$\ln V = \left\{ \left[ \frac{\ln x - \ln a(p)}{b(p)} \right]^{-1} + \lambda(p) \right\}^{-1} \tag{1}$$

Where x is expenditure and a (p), b (p) and λ (p) are defined as;

$$\ln a(p) = \beta_0 + \sum_i \beta_i \ln(p_i) + \frac{1}{2}\sum_i \sum_j \gamma_{ij} \ln(p_i) \ln(p_j) \tag{2}$$

$$b(p) = \prod_{i=1}^{n} p_i^{\beta i} \tag{3}$$

[18] See Appendix A, Table no 1.

$$\ln \lambda(p) = \sum_{i=1}^{n} \ln(p_i) \tag{4}$$

Where i=1,…, n denotes a good. Applying Roy's Identity to Equation 1 gives the following Equation for $w_i$, the share of expenditure on good I in total expenditures is, for each household;

$$w_i = \beta_i + \sum_{j=1}^{n} \gamma_{ij} \ln(p_j) + \delta_i \ln\left(\frac{x}{a(p)}\right) + \frac{\lambda_i}{b(p)}\left(\ln\left(\frac{x}{a(p)}\right)\right)^2 \tag{5}$$

The QUAIDS must satisfy the following properties i.e. additivity, homogeneity, symmetry, and negativity for consistency. The first three must conditions can be imposed using linear restrictions on the parameters of the model;

Adding up;

$$\sum_{i=1}^{n} \beta_i = 1; \quad \sum_{i=1}^{n} \delta i = 0; \quad \sum \gamma ij = 0 \quad \forall j; \sum_{i=1}^{n} \lambda_i = 0 \tag{6}$$

The adding up condition implies that the sum of quantities demanded, evaluated at their respective prices, must equal the available total expenditure of the household.

Homogeneity;

$$\sum_{j=1}^{n} \lambda_{ij} = 0 \; \forall i \tag{7}$$

Theoretically, the demand functions must be homogeneous of degree zero in income and price. The homogeneity condition considers a proportional change in all the prices and income.

Symmetry;

$$\gamma_{ij} = \gamma_{ji} \tag{8}$$

Symmetry derives from the existence of consistent preferences, assuming that any cost function representing any consistent preference is twice continuously differentiable. Negativity cannot be imposed in such a manner but it can be estimated through Slutsky matrix to see if this condition is satisfied.

In STATA, QUAIDS command automatically imposed these conditional restrictions in the estimation.

If household demographics have included in the model demographic denoted as k=1,…,K can be theoretically entered as taste-shifters in the share equations and in order to maintain integrability , the part of $\alpha_i$ in ln a (p) in Equation 1 becomes;

$$\ln a(p) = \beta_0 + \sum_i \left\{ \beta_i + \sum_{k=1}^{K} \beta_{ik} z_k \right\} \ln(p_i) + \frac{1}{2} \sum_i \sum_j \gamma_{ij} \ln(p_i) \ln(p_j) \tag{9}$$

And the equation for budget shares then becomes;

$$wi = \beta i + \sum_{k=1}^{K} \beta_{ik} z_k + \sum_{j=1}^{n} \gamma_{ij} \ln(p_j) + \delta_i \ln\left(\frac{x}{a(p)}\right) + \frac{\lambda i}{b(p)} \left(\ln\left(\frac{x}{a(p)}\right)\right)^2 \tag{10}$$

The adding up condition now comes out to be;

$$\sum_{i=1}^{n} \alpha_i = 1; \quad \sum_{i=1}^{n} \alpha_{ik} = 0 \tag{11}$$

$$\sum_{i=1}^{n} \alpha_i = 1 \tag{12}$$

The Uncompensated price elasticity and compensated price elasticity is given as

$$e_{ij}^{u} = \frac{\psi_{ij}}{w_{ij}} + \delta_{ij} \tag{13}$$

Where $\delta_{ij}$ represents Kronecker delta

$$e_{ij}^{c} = e_{ij}^{u} + e_{i} w_{i} \tag{14}$$

The price and income elasticities have been computed for various food groups to explore consumer potential and responsiveness towards product diversification. The price elasticities have been classified into compensated and uncompensated price elasticities. The uncompensated elasticities show change in the quantity demanded due to a change in the price of the commodity and captures only the price effect. The highly sensitive or elastic demand indicates a competitive consumer market having acceptable substitutes of the product. Income (expenditure) elasticities have also being estimated for twelve groups in order to explore the responsiveness of demand to fluctuations in the income. The proportion of increase in the demand due to the rise in income varies at the national, regional and provincial level for various food groups. In short income elasticity help to explore the changing demand patterns among the various food groups by highlighting the elastic and inelastic demand. For elastic food group, demand rises with higher proportion than the proportion of income spend on it. So, it implies that households will spend relatively more on these food groups as their proportion of income increases and vice versa.

### 3.3 Estimation and Sorting Software

The soft wares employed to sort the micro data, extract and generate variables, estimations and formulating mathematical equations are Microsoft Excel, Statistical

Package for Social Sciences (SPSS) version 20, Math Type (Aids in formulating mathematical equations) and STATA 15.

# CHAPTER 4

# CONSUMPTION PATTERN AND SUPPLY MECHANISM OF READYMADE FOOD MARKET IN PAKISTAN

The developing economies have witnessed a diversified consumption pattern and moved towards high value food products over the last past few years. They have invested in diversifying their agricultural output by focusing on the production and marketing of high value products mainly fruits and vegetables, dairy, poultry and meat. This shift of consumption and production from the traditional low value grains towards high value products resulted in increasing the income and improved quality of life. Similarly, Pakistan have also experienced a change in its consumption pattern and demand for high value products. The current chapter studies the demand over the period of eight years to assess the change in the consumption pattern of various food groups especially the readymade food group. In addition, it also offer insights into the market regulation and demand of readymade food products at the national, provincial and regional level to highlight the needs and requirements of the emerging sector.

## 4.1 Changing Consumption Pattern and Potential of Product Diversification among households of Pakistan

Food is a basic need of a household in Pakistan. In this regard, it is imperative to understand the relationship between food demand and household consumption patterns over time. Moreover, in Pakistan consumption expenditures account for more than 50% of a household's budget and 80% of the GDP (Jalil & Khan, 2018). Therefore, it is important to understand the changing consumption pattern and dynamics of food market particularly for the formation of policies and their impact on the economy (Blundell, 1988). The table 4.1 elaborates changes in the consumption pattern accounted by the household expenditure share over the eight years in Pakistan.

**Table 4.1:** The expenditure share of the food groups (2010-2019)

| Food Commodity | 2010-2011 % | 2018-2019 % | % Change 2010-11 2018-19 |
|---|---|---|---|
| **Cereals** | 20 | 18 | -10 |
| **Pulses** | 3 | 2.9 | -3.33 |
| **Edible oils** | 12.5 | 10 | -20 |
| **Tea** | 3 | 4.2 | 40 |
| **Spices** | 4.4 | 4 | -9.09 |
| **Milk and Milk products** | 15 | 19.3 | 28.7 |
| **Meat/Poultry** | 10.6 | 8.2 | -22.64 |
| **Fruits** | 3.5 | 5.1 | 45.71 |
| **Vegetables** | 11.6 | 12.2 | 5.17 |
| **Sugar and its Products** | 11.9 | 7.5 | -36.97 |
| **Readymade food & Beverages** | 3 | 7 | 133.33 |
| **Baked items** | 1.5 | 1 | -33.3 |

**Source**: Author’s own calculation, HIES (2010-2011, 2018-2019)

The variation in the household consumption pattern is attributable to a number of factors that either shift the demand or supply curves or changes the price of the product. Over the last eight years, households spend major portion of their budget i.e. 35% to 40% on cereals and milk and milk products. It is followed by edible oil, meat, vegetables and fruits. Moreover it can be observed that the proportion of income spend on milk and milk products has increased by 28.7% over time that is followed by fruits and vegetables as well. However, the expenditure share of cereals has declined by 10% in Pakistan. It indicates that households have moved from the staple food towards high value products. It highlights changed consumption pattern over time and the potential of product diversification in the households of Pakistan. The same pattern can be observed in the urban and rural areas as well. Although cereals have the highest share in the budget, their expenditure share have declined significantly by 14.7% among the urban and by a 5% among the rural households. Whereas the share of milk and milk products have massively increased by 44.8% in the rural and 29.5% in the urban areas. The similar pattern is observed in terms of fruits as rural households share increased by 47% and urban household's share increased by 39.4% on fruits.[19] In addition, urban households' share on vegetables decline by 1% whereas for rural households it has increased by 6%. The massive increase in the expenditure share can also be observed in terms of tea. The households although have shown a decline in the share of spending on other groups but not significantly. For example, in 2019 the spending share on meat was (8%) followed by edible oil (10%), sugar by (7.5%) and pulses by 2.9%.

So, it can be concluded that not only urban but rural households have also started showing the potential for product diversification as the share of milk and milk products, vegetables and fruits have significantly increased in rural rather than urban areas.

At the provincial level, although the expenditure share on cereals has decline in all the provinces but it has declined the most in Punjab by 11%. On the other hand, the share on

[19] See Appendix A, Table No 1 for regional and provincial consumption patterns.

milk and milk products has increased positively in all provinces with the highest increase in Baluchistan (63%) and in Punjab (30%).[20] As of regionally, we can conclude provincially as well that over the years expenditure share have diversified from cereals towards milk and milk products, fruits, vegetables and tea. Whereas the households spend less on meat, sugar and sugar products, baked items, edible oils, pulses and spices as with time, a decline in their expenditure share was found as compared to the other food groups.

### 4.1.1 The Changing Consumption Patterns towards Readymade food in Pakistan

The analysis of consumption pattern of the last eight years depict that households are diversifying consumption towards high value added commodities. It can also be seen from the table 4.2, where the massive increase can be observed in the consumption of readymade food and beverages over the last eight years. In 2010, the food group accounts for only 3% in the budgetary share which rose to 7% over the next eight years i.e. by 133% in Pakistan.

A similar pattern can be observed regionally where not only urban but rural households have shown increased expenditure share on readymade food products by 123%. It may be due to reduction in the household size and increased no of earners thus more buying power. The significant contributors can also be the easy accessibility of internet on the mobile phones to the far flung areas. It has affected the preferences of rural consumers as they are now more aware in making consumption decisions (Saleem et al, 2017). The expenditure share on readymade food and beverages has increased by 146% in the urban areas as well. Urbanization, female labor force participation and technological advancement have played a vital role in increasing the demand for these products (Redman, 1980).

[20] See Appendix A, Table No 1 for regional and provincial consumption patterns

**Table 4.2:** The expenditure share of Ready Made Food (2011-2019)

| **Food Commodity** | **Province/ Region** | **2010-2011 %** | **2018-2019 %** | **% Change 2010-11 2018-19** |
|---|---|---|---|---|
| **Readymade food** | Overall | 3 | 7 | 133.33 |
| | Rural | 2.6 | 5.8 | 123.07 |
| | Urban | 3.9 | 9.6 | 146.15 |
| | KPK | 2 | 5.8 | 190 |
| | Punjab | 3.7 | 6.3 | 70.27 |
| | Sindh | 3.6 | 10.7 | 197.22 |
| | Baluchistan | 2 | 4.6 | 130 |

**Source**: Author's own calculation, HIES (2010-2011, 2018-2019)

Consumers are more aware now comparatively with the past years as they can search the products online and deliver them at their door steps. It is influencing the mindsets, needs and habits of households in Pakistan. Secondly, the introduction of food delivery applications has also played a significant role. Moreover, provincially, Sindh has shown the highest increase in its expenditure share (197%) on readymade food products followed by KPK (190%), Baluchistan (130%) and Punjab (70%). The main factors responsible may be the increased no of earners and household income, consumer buying power and the culture of consumerism.

The analysis of the budgetary allocations reveals that households have shown greater acceptability towards the diversified and high value added products from the traditional staple foods. The budgetary share on cereals although is still contributing the highest but has shown a declining pattern substantially over the period of last eight years. Households have diverted their consumption towards the food groups like milk and milk products, fruits, vegetables. Whereas a positive preference by households and growth in budgetary allocation is found in a value added food category of readymade food and beverages, overall, regional and at provincial level. It indicates, that Pakistan has an emerging market for readymade food products having a potential demand.

## 4.2 The Mechanism and Regulation of Readymade food Market Supply in Pakistan [21]

For the objective of exploring mechanism and regulatory framework, potential and challenges encountered by the producer of the readymade food market, interviews were being conducted from the regional sales manager of K&Ns, Menu and Big bird. The discussion was based on the following questions below.

**Discussion Questions**

1. What do you think how has readymade food market demand emerged over the last past few years in the South, North and Central regions of Pakistan?
2. What are the primary significant contributors of this potential market demand?
3. How is the readymade food market regulated in Pakistan? And what is the main difference among the type of readymade food companies operational in Pakistan?
4. What are the main types of readymade food product categorization being done in Pakistan? What is the estimated monthly turnover for these products?

[21] The explanation is based on the interview conducted from Regional Sales Manager, Big Bird. K&Ns and Menu.

5. What is the export potential and value chain challenges faced by the companies that requires government intervention?

#### 4.2.1 The Emergence of Readymade Food Market in Pakistan

The readymade food market has developed gradually over the period of last 20 years and presently have become completely saturated. It has shown a rapid growth especially over the last eight years.

Earlier, in 2005/06 people were unfamiliar with the readymade products and brands were reluctant in purchasing even in the urban areas. Consequently, the every company's retail team has to struggle to maintain the availability of these products as shop keepers were resistant to sale such products. One of the reason was the incomprehensive concept of readymade product with and expiry of more than five months as the identical product could be purchased fresh at a significantly lower price.

Likewise, in the rural and the northern areas such as Swat, Mingora, Timergara, and Batkhela, readymade food was not much appreciated and was inaccessible due to little or no demand. As a result the readymade food companies found it least profitable to regulate in such areas. Gradually, the companies began operating in the northern areas as a result of an increase in tourism and local citizens' admiration of the product demand.

In comparison with other companies such as Tetra Pack, readymade frozen food companies have done less work in the area of customer development and product awareness. Over the past years, Tetra Pack has invested significantly in developing its customer and creating product awareness overall in Pakistan. Furthermore, changes in socio-demographic characteristics aided in the development of a robust client base and demand for readymade product in Pakistan. Secondly, convenience associated with the readymade food is the most significant demand booster of readymade food. Earlier in 2005, only two firms, K&Ns and Mon Salwa, were prominent companies in the readymade food industry. Now eventually with time, almost 10 main stream brands are operational in the North and Central region other than the mushroom brands in the last five years such as Al-Shaheer, Big Bird, Sufi, PK foods, Sabroso etc. It itself signifies the growing market of readymade food.

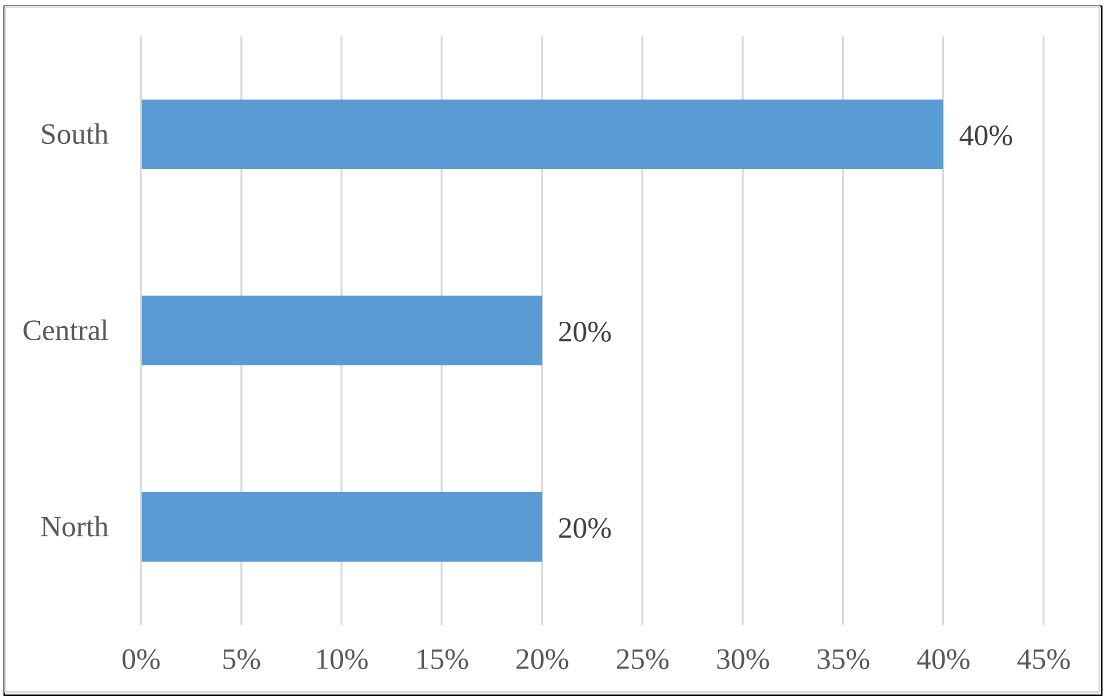



***Figure 4.1:*** *The Increase in the Regional Demand of Readymade food, 2021*

**Source:**[22]

The Figure 4.1 elaborates the increase in the regional demand of readymade food in Pakistan. Pakistan is mainly divided into three main segments of regions i.e. North, Central and South region by the readymade food industry.

The North region covers cities of upper Punjab, including regions of KPK, Azad Kashmir and the entire Mansehra belt. In 2021, 20% increase in the market demand of readymade

[22] Data is shared during an interview by Regional Sales Manager, Big Bird. K&Ns, Menu.

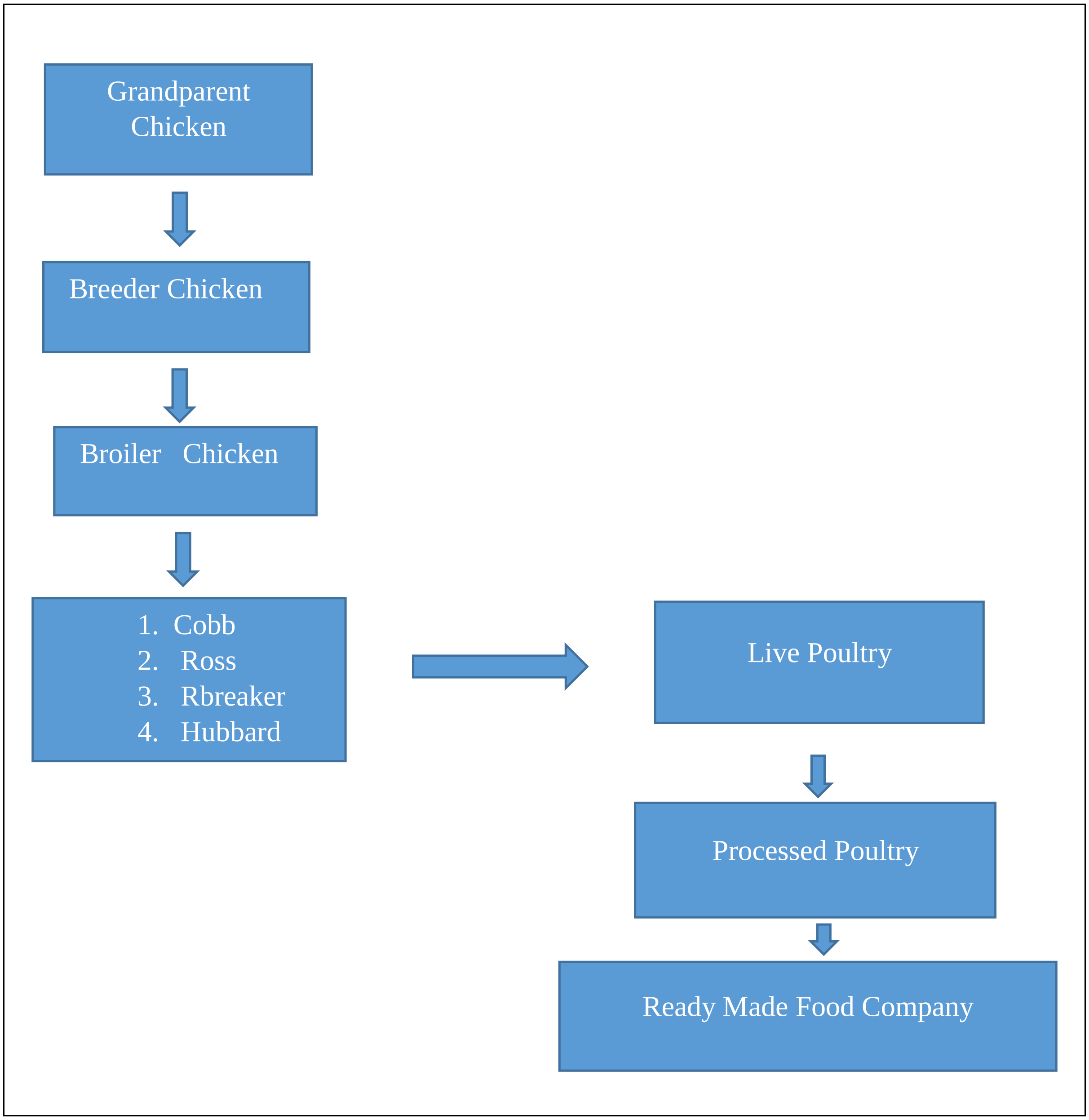
food come from the North region. Earlier in 2005, no major company or retail shop was operation in the north region. Gradually, as the responsiveness of market demand and tourism increased companies, together with the awareness regarding readymade food, companies started to function in the North region as well. Whereas, the Central region include the cities from Khariyan till Multan. In 2021, the central also depicts 20% increase in its demand of readymade frozen food. The market of readymade food in the central and south region is completely saturated[23]. The South region comprises of the entire province of Sindh and Baluchistan. It mainly starts away from Jacobabad, including Larkana, Karachi, Hyderabad, Quetta etc and the entire Baluchistan. The highest market demand comes from Southern Pakistan, especially from the Karachi city as it itself is termed as a mini Pakistan. Moreover, over time the no of earners and household income has also increased in this region. In 2021, the market demand of the south region increased by 35% to 40%. It is also shown in the table 4.4 that among all the provinces, Sindh and Baluchistan has the highest market demand for readymade food products due to the emerging middle class, growing population and consumerism among the households. Analyzing the regional demand, we can conclude the overall in Pakistan the market demand of readymade food has increased almost by 55% to 60%.[24] Similar pattern can be observed from the analyses of market demand using Household integrated Economic Survey Data in the table 4.4.

### 4.2.2 The Structure of Readymade Food Market Supply of Pakistan

Poultry is the backbone of readymade food market of Pakistan. There are two different segments that operate in Poultry as shown in Figure 4.2. The first one is live poultry and

[23] Information shared during an interview by Regional Sales Manager, Big Bird, K& Ns, Menu.
[24] Data is shared during an interview by Regional Sales Manager, Big Bird, K& Ns, Menu.

the second one is processed poultry that is directly linked with the readymade frozen food industry. Whereas backend of the readymade food industry is the live poultry. The major difference in the regulation of readymade food companies is that some deal only in processed poultry while others deal in live and processed poultry as well.[25]




[25] The explanation is based on the interview conducted from Regional Sales Manager, Big Bird. See Appendix for interviewer detail.

***Figure 4.2:*** *The Segmentation of Poultry in Pakistan*
**Source:** Author's own[26]

### 4.2.3 Live Poultry Segment

The cycle of readymade food began from the broiler chicken that is processed for production as depicted. Broiler chicken or parent chicken is descended from breeders, which are a type of breed of chicken that descends from Grandparent (GP) chickens.

The fattening of the type of broiler that most ready-made food firms are interested in is normally handled by live poultry. The figure 4.2 depicts there are four different types breeds of chicken managed or used by various readymade food firms based on the specific qualities of the breed and the requirement of the company. For example sustainability of the breed is very important for any company that in the local environment the breed should have less mortality ratio and more environmental resistance. Moreover, the breed must consume less feed and gain more weight in less time as such breed would be beneficial for the farmer and the readymade food company. In addition, the breed should have high meat to bone ratio. Such breeds are either raised by the live poultry segment or by the readymade food company itself. Cobb is a special kind breed used by K&Ns as a raw material for its readymade food items. Cobb is an American corporation that have developed the specific breed. Then there's Ross and Rbreaker, which are purchased by many frozen readymade food industries.

Likewise Hubbard, a French business that does breed research, is used by Big Bird. These are unique breeds that have not been genetically modified and are the result of the best natural selection process. Various breeds are crossed in this method, and a specific breed

[26] Flow chart constructed on the basis of the information shared during interviews.

quality is achieved by repeating the process until the desired breed is achieved. Various companies of the world invest solely on developing the breed of chicken and a good breed requires more than 10 years to form. The figure 4.2 explain the life cycle of a specific kind of breed that is used by the readymade food companies. The first primary product of the breed is named Grand Parent by the developing company whose average life span and size is bigger than the normal breed. The egg laid by Grand Parent when hatched is named as Breeder Chicken. In addition a breeder's hatched egg is known as a broiler chicken. All the firms in the live poultry import the egg of Grand Parent in Pakistan. On the farms, firm do the fattening of the Grand Parent chicken to get the breeder which is then sold to other farms and firms. The breeder's egg is then sent to various hatcheries to produce the broiler chicken which serve as a main product of the readymade food companies.

### 4.2.4 Processed Poultry Segment

The readymade food industry is mainly linked with the processed poultry segment whereas live poultry is the backbone of this segment. However, there are some brands of readymade frozen food that operate in both segments such as K&Ns, Big Bird and Menu. Whereas those solely operating in the processed poultry purchase broiler directly from the live poultry for the production of their products. All the companies regulating in the processed food segment can be further divided in to two segments i.e. either the companies are vertically or partially integrated.

#### 4.2.4.1 Vertically Integrated Readymade Food Companies

Readymade food companies that are owning and regulating each and every facet of the poultry industry are known to be vertically integrated companies. Such companies deal in both segments of the poultry i.e. live and processed poultry and produce feed and own hatcheries. These firms import their own egg of Grand Parent to produce breeder and farm their own broiler for processing. In Pakistan only three enterprises are completely vertically integrated in the north region. There are ten major corporations in total, although only three are vertically integrated. These include:

1. K&Ns
2. Menu (A project of national group of companies)
3. Big Bird

These are 100% vertically integrated companies and own every segment of poultry. They even own their agricultural property for the cultivation of chicken feed.

#### 4.2.4.2 Partially Integrated Readymade Food Companies

Partially integrated companies are said to be small companies in this segment however in term of turnover they are not. Such companies purchase breeder either from vertically integrated companies or other farms regulating in live poultry. In Pakistan, readymade frozen products are divided into two subdivisions.

1. Primary Processing or Ready to Cook Products (PP)
2. Further Poultry Processing Products or Ready to Eat Product (FPP)

**Table 4.3:** The Monthly Turnover of Ready to Eat/ Cook Chicken in Pakistan (2021)

| Company Name | FPP(kg) | PP(kg) |
|---|---|---|
| **K & N's** | 120,000 | 250,000 |
| **Sabrosa** | 40,000 | 130,000 |
| **Dawn** | 25,000 | - |
| **Mon Salwa** | 28,000 | - |
| **Big Bird** | 25,000 | 60,000 |

| | | |
|---|---|---|
| **Simply Sufi** | 12,000 | 20,000 |
| **O'Foods** | 8000 | 40,000 |
| **Chef One** | 8000 | - |
| **Euro Foods** | 13,000 | - |
| **Others** | 5000 | - |
| **Total** | 288,000 | 515,000 |

Source: Big Bird, 2022[27]

The table 4.3 shows the monthly turnover of ready to eat / cook chicken by the major players of Pakistan. The monthly turnover of K&Ns is the highest in both ready to eat and cook categories followed by Sabroso and Big Bird.[28]

### 4.3 Export Potential of Readymade Food Industry

The producer of readymade food industry has an immense potential of exporting the primary products. Among the firms operating in this industry, Menu, Mon Salwa and K&Ns are one of the prominent exporters of readymade frozen food. These producers are exporting but not up to their maximum potential due to the quality challenges. They are either exporting from Pakistan or from United States because of the ease of doing business. The other mainstream exporting producers include Sabroso and Big Bird. Whereas some of the producers solely operate in exporting their products such as Royal foods as their processing unit is only installed for this purpose. Such producers earn so much from

[27] The data and information is shared during interview of from Big bird. See Appendix A for the details of the interviewer.
[28] The data and information is shared during interview of from Big bird. See Appendix A for the details of the interviewer.

exporting their products that they are reluctant to invest in developing a customer base in the local market.[29]

### 4.3.1 Export of Readymade Food products

Most readymade frozen food producers are unable to export raw frozen meat due to different international norms and regulations. Moreover internationally the demand of wheat-based products is much higher than meat based products. As a result, the majority of businesses export vegetables and wheat-based products. The most popular exporting wheat-based products are spring rolls, samosas, and parathas, especially among Indians and Asians residing in the Gulf region.  Furthermore, just a few producers specialize on vegetable exports. Icepac is the only producer that exports frozen peas, broccoli, and carrots on a large scale from Pakistan.

## 4.4. Challenges of the Readymade Food Producers and Exporters

The readymade food producer has to overcome significant challenges in terms of production such as energy and environmental issues, cold chain/retail-level inefficiencies and financial issue. Some of these major challenges are discussed below.[30]

### 4.4.1 Energy Crisis

Energy crisis in terms of unavailability of electricity and gas, the unreliable weather condition became one of the biggest challenge for the industry. Omore ice-cream brand is the main example in this case as it was launched with a very large investment by one of the biggest companies “Engro”. But the brand couldn’t sustain its products in the market and

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[29] Interview taken from regional sales manager at Bird Bird and Menu. See Appendix for the interviewer details.

[30] Discussed in an interview of regional sales manager at Big Bird, K&Ns and Menu

the one of the primary reason was the temperature abuse due to unviability of electricity since the product couldn’t sustain in the market. It was spoiled and returned back to the company. As a result, the company faced massive losses. Apart from massively investing in the efficiency of cold storage, still the companies are helpless in terms of energy management once the product reached the retailers.[31] However, big retailers like Hyperstar, Dwatson efficiently manage the energy issue, still it remains an issue on the vast majority.

### 4.4.2 Cold Storage/ Supply Chain Inefficiencies

The companies faced cold /supply chain issues as the cold chain often breakdowns from the production till the product reaches the consumer. Since, the cold chain is such an important part of the readymade frozen food industry's infrastructure, its proper functioning is a key aspect in the industry's success. The growth of bacteria as a result of breakdown impacts the product's quality and standard. Consequently, the product has a high risk of perishing quickly owing to temperature abuse resultantly losing texture or taste. Moreover, the locally manufactured quality of the freezers are not very reliable. Initially, there was a monopoly of Waves Company in terms of manufacturing freezers for the industry and its quality was not up to the mark. However, now Varioline Company has started manufacturing freezers/cold storage for the industry in Pakistan that has made a difference in terms of maintaining the product shelf life.

### 4.4.3 Readymade Food Export Challenges

In Pakistan, although the readymade food companies follow stringent international quality standards, but still some of them are unable to export from Pakistan at a larger scale

[31] Interview from Menu, Regional Sales manager.

(K&Ns) because the government of Pakistan do not efficiently regulate the market standards required for export from Pakistan. So, K&Ns which itself is a company having a market share of almost 80% has a plant operating in New York because of the ease of doing business that the country offers. From United States, K&Ns exports to Canada, Singapore, Malaysian, Saudi Arabia and UAE. Similarly dawn also has a production plant operation at United States from where it covers the market of North America.[32] Unlikely the government of countries like Brazil and Denmark, government don't provide any incentives, tax breaks or export subsidy to the companies in Pakistan that makes the product expensive in the international market. The Pakistani product has compete against Indian and Bangladeshi product in terms of prices which don't match the production cost. High labor, electricity and transportation cost makes our product least competitive in the international market. It results in higher cost of operating business in Pakistan. Similarly, custom duties on the import of raw materials and double taxation at the provincial level also increases the cost of doing business. Due to these challenges faced by the companies it becomes difficult to fulfil the export potential that the market exhibit.[33]

#### 4.4.4 Access to Credit

Mostly companies are engaged with commercial banks for loans on high interest rates. Whereas no financial support is provided by the government in terms of interest free or low interest loan schemes for especially for the purchase of modern and efficient

[32] Interview taken from regional sales manager at Bird Bird and Menu. See Appendix for the interviewer details.
[33] Interview taken from regional sales manager at Bird Bird and Menu. See Appendix for the interviewer details.

technology. Moreover, inadequate funding facilities for the packaging and storing of the products.

### 4.4.5 Market Access

The majority of mushroom readymade companies have lack of access to the international markets and are unfamiliar with the new market trends. There is no such forum established by the government that give information about the new market trends, technological development and export markets. Secondly, due to the scarcity of laboratory testing, certification and packaging issues, products limits the access to the international market especially for the small firms.

# CHAPTER 5

# MARKET DEMAND AND POTENTIAL OF READYMADE FOOD IN PAKISTAN

## 5.1 The Market Demand (Consumption) for Ready Made Food in Pakistan

Over the years, with the diversified consumption patterns, the market of readymade food demand has also shown a significant growth nationally, provincially and regionally. The main factors responsible for the growing market potential of readymade food are mainly the lifestyle changes such as increase in the number of dual income families, diversified tastes and the greater convenience over higher price associated with such products.

**Table 5.1:** The Market Demand (consumption) for Ready Made Food in Pakistan (2011-2019)

| Ready Made Food Market Demand (%) | National (%) | Rural (%) | Urban (%) | KPK (%) | Punjab (%) | Sindh (%) | Baluchistan (%) |
|---|---|---|---|---|---|---|---|
| **2010-2011** | 35 | 28 | 44 | 29 | 32 | 51 | 21 |
| **2018-2019** | 55 | 43 | 70 | 44 | 43 | 86 | 42 |
| **2010-2019** | 57 | 54 | 59 | 52 | 34 | 69 | 100 |

**Source:** Author's own calculation, HIES *out of total national, provincial and regional sample.

The table 5.1 depicts the growing market demand of readymade food over the years 2011-2019. In 2011, only 35% of the households were consuming readymade food annually. Whereas, demand increased significantly by 57% from 2011 till 2019. Among the various factors, the most influential of this change in demand is the convenience associated with the readymade food especially for the women as mostly they are solely responsible for managing kitchen budget and making quality food choices. Similarly there is also a substantial upsurge in regional demand i.e. 43% of the rural households and 70% of the urban households have consumed readymade food products. The urban demand has increased more than the rural demand i.e. by 59%. This is because of the easy accessibility of internet that resulted in creating awareness. Theses households are much more aware and able in making diversified food choices. Similarly, the other significant factor is the easy availability of readymade food products in these areas as well. Moreover, urbanization, strict working schedules and female workforce participation played a vital role for this growing demand. Rural demand has also grown over time by 54%. In short, urban and rural households' preferences for convenience and diversified taste over the product price is the main factor of the growing market of readymade food.

Among all the provinces, Sindh and Baluchistan especially has the growing market potential for readymade food demand. This is due to the fact that over the past few years, increasing female labor force participation has resulted in growing affluent middle class especially in the metropolitan areas of Sindh and Baluchistan. Whereas, Karachi is also termed as a mini Pakistan itself.[34]

### 5.1.1 The Segmentation of Readymade Food Market Demand (Consumption) in Pakistan

The demand of readymade food has evolved due to segmentation of the market at hotels and homes. The changed consumer preferences from especially of the upper middle class from beef to chicken, launch of various multinational fast food chains, the rise of restaurants dining out and food delivery culture mainly resulted in segmenting the market of readymade food. Moreover, many readymade food companies like K&Ns is fulfilling the demand of many multinational fast food chains in Pakistan. The following table 4.5 depicts the segmentation of readymade food demand of households at home and hotels in Pakistan.

**Table 5.2:** Segmentation of Ready Made Food Market Demand in Pakistan

| Ready Made Food Market Demand (%) | National (%) | Rural (%) | Urban (%) | KPK (%) | Punjab (%) | Sindh (%) | Baluchistan (%) |
|---|---|---|---|---|---|---|---|
| **Hotels** | 19 | 22 | 13 | 20 | 12 | 32 | 23 |
| **Home** | 17 | 9 | 27 | 15 | 18 | 14 | 6 |
| **Hotels &Home** | 19 | 12 | 30 | 9 | 13 | 40 | 13 |
| **Total** | 55 | 43 | 70 | 44 | 43 | 86 | 42 |

[34] Information shared during an interview by Regional Sales Manager, Big Bird, K& Ns, Menu.

**Source**: Author's own calculation

In 2019, out of the total market demand, 19% of the households consumed readymade food products in restaurants which included kebabs of all kinds, tikka boti, nuggests, burgers, sandwiches, fries, pizzas etc. Among these households, `17% of the household consumed readymade food at home whereas 19% are the consumers of such food products both at home and hotels. This market segmentation of demand has resulted in growing market size and consumer base of readymade food products that is a positive signal for the sector itself. Moreover, 27% of the urban households consumed readymade food at home and 13% at hotels. Whereas 30% of these households consumed both at home and hotels. It is mainly due to the time pressed schedules in the urban areas, people prefer to consume in the comfort zone of their homes. Secondly, due to the technological development, different user friendly applications of food and grocery deliveries (airlift, grocers) have been readily operational in the urban areas. Moreover various companies of the readymade food have also introduced such applications from which the consumers can easily order at the convenience of their homes. These grocery and food delivery applications have increased the accessibility and ease especially for the women in dual income earning families. However, such applications have been proved very fruitful for the housewives of the nuclear families due to unavailability of someone to get food from the market. In the rural region, 9% of the rural household consumed readymade products at homes and 22% at hotels as with changing time, dinning out or dhabba culture is very much prominent in our rural areas. Whereas, 12% of the rural households consume readymade food both at homes and hotels. Moreover, technological access especially internet and mobile phones have significantly influenced the preferences of rural households. Among all the provinces, Sindh has an emerging market of readymade food followed by KPK, Punjab and

Baluchistan. There can be three major factors for the growing market potential of Sindh i.e. the rising population as it houses one of the biggest cities of Pakistan. Moreover, the purchasing power of people has increased as there are spending more on readymade food products. This phenomena can also be seen from the consumption pattern of such households in table 4.2. Their expenditure share on readymade food products is the highest among all the provinces. Moreover, table 4.8 where Sindhi households on average monthly spend Rs 1522 on readymade food products. Secondly the culture of consumerism and user friendly applications overall the country have led to the increased market demand of readymade food products.

## 5.2 Product Segmentation and Demand (Consumption) of Readymade Food in Pakistan

The figure 5.1 shows the demand of the readymade food[35] based on the product segmentation by the households. It can be seen that tea has the highest demand is of tea

[35] The readymade food comprises of all the kinds food such as ready to cook and ready to eat products.

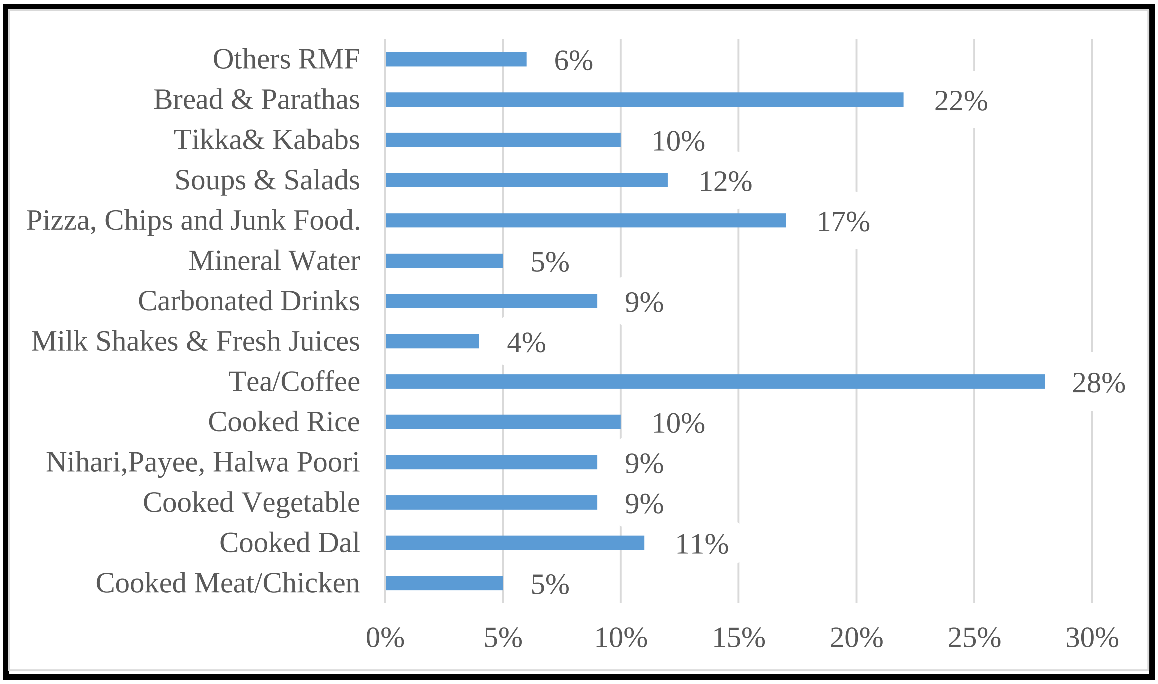


***Figure 5.1:*** *Demand of Ready Made Food based on Product Segmentation, 2018-2019*

**Source**: Author's own calculation, HIES 2018-2019

followed by readymade wheat based products such as bread, naan and all kinds of parathas. (22%), pizzas, fries, burgers and junk food (17%). Moreover, it is followed by soups and salads (12%), tikka, kababs of all kinds, nuggests etc (10%). Moreover, the demand of carbonated drinks is 9% and all the other kinds of readymade food is 6%. The market of these readymade food products has a lot of potential for growth as households in Pakistan demand and spend more on them.

### 5.2.1 Product Segmentation and Regional Demand (Consumption) of Readymade Food in Pakistan

The figure 5.2 shows the demand of the readymade food[36] based on the product segmentation by the urban households. It can be seen that wheat based readymade

[36] The readymade food comprises of all the kinds food such as ready to cook and ready to eat products.

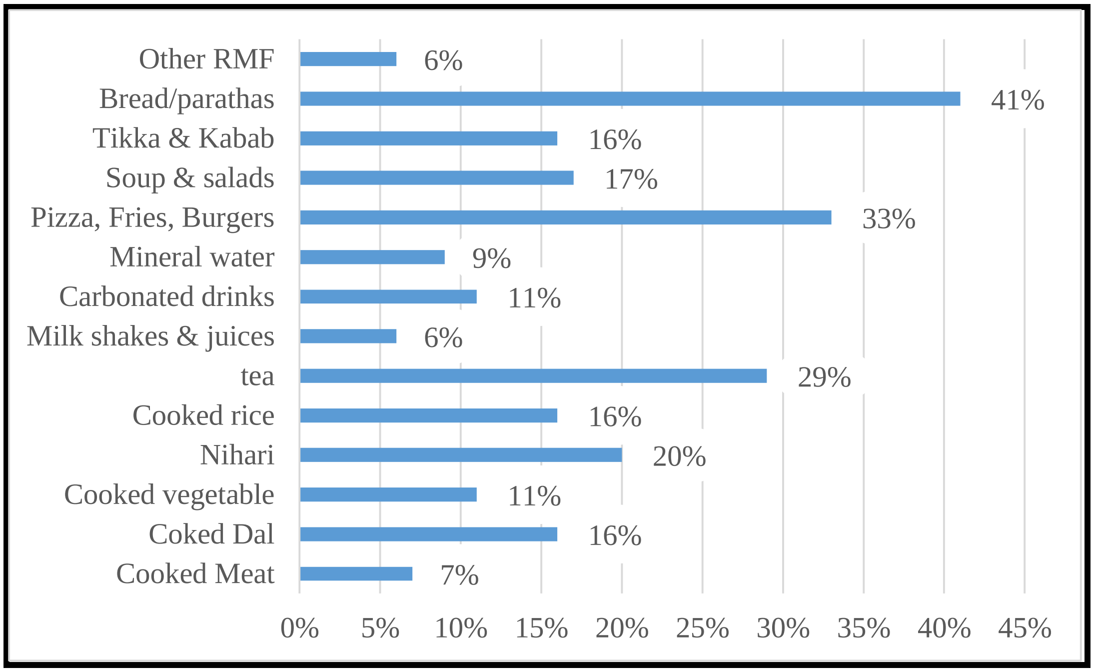


***Figure 5.2:*** *Urban Demand of Readymade Food 2018-2019*

**Source:** Author's own calculation, HIES 2018-2019

products has the highest demand (41%) in the urban areas due to the fixed and busy time schedules of the households. Moreover, there are dual working families in the urban areas, females prefer buying readymade or frozen parathas rather than making them on their own. This increase in demand is followed by pizzas, fries, burgers (33%), tea (29%), tikkas, kababs of all kinds (16%) and soups and salads by 17%. This is due to the change in the consumption patterns, as urban households prefer value added or readymade food from the traditional staple food.[37] They have developed mindset and preference for pizzas, burgers, tikkas, nuggets etc that can be seen from the increased demand of these product categories.

[37] See Appendix A, Table 1.

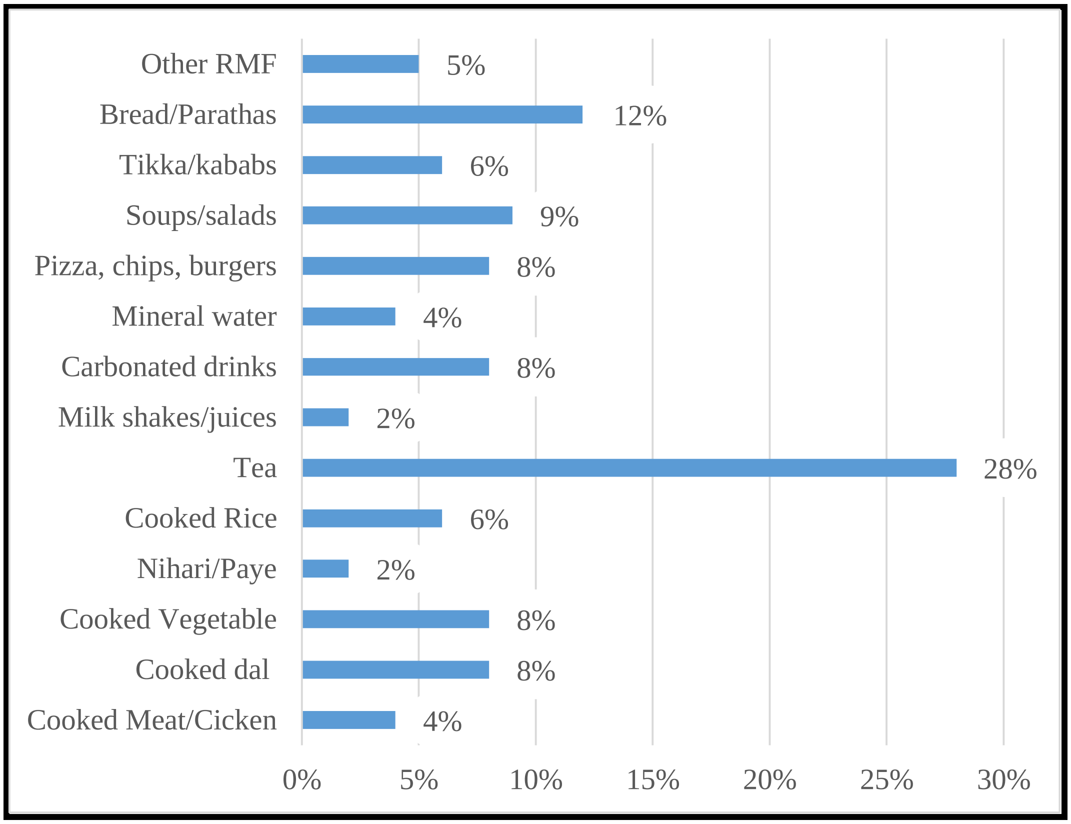


***Figure 5.3:*** *Rural Demand of Readymade Food 2018-2019*

**Source:** Author's own calculation, HIES 2018-2019

Similarly the figure 5.3 shows the demand of the readymade food[38] based on the product segmentation by the rural households. It can be seen that wheat based readymade products. The rural households have the highest demand of tea (28%) that is followed by bread, parathas (12%), pizza, fries, burgers (8%), soups and salads (9%) and tikka/kababs (6%). With time, the rural households have also developed the taste for readymade products due to the increased awareness among them.

At the provincial level, Sindh has the highest demand for wheat based products such as bread, parathas, naan etc (35%) followed by KPK (26%), Punjab (18%) and Baluchistan (10%). Whereas, the demand of pizzas, burgers and fries is also the highest in Sindh (28%)

[38] The readymade food comprises of all the kinds food such as ready to cook and ready to eat products.

and Punjab (16%), Baluchistan (10%) and KPK (5%). The demand for tikka/kababs/nuggets is also the highest in Sindh (17%), followed by KPK (14%), Baluchistan (6%) and Punjab (6%)[39]. These readymade product markets has the highest potential of growth in Pakistan as with the increase in the population, emergence of the middle class and rise in female labor force participation, people now prefer convenience food over the price.

### 5.3 The Market Potential of Readymade Food in Pakistan

The readymade food market is not only a market composed of a few companies battling for a larger market share. The factors behind this newly emerging sector or industry is the rising middle class, dual working families with more purchasing power, women empowerment and the progression of consumerism among the households of Pakistan. (Arifeen, 2012). These factors led to the growth of readymade food market as households budgetary share on these products has increased from 3% in 2011 to 7% in 2019 (table 4.2). The table 5.3 elaborates the regional and provincial expenditures of households on the readymade products.

**Table 5.3:** Monthly/ Annual Expenditure on Ready Made Food, 2011-2019

| Year | Avg Exp Rs | National | Rural | Urban | KPK | Punjab | Sindh | Baluchistan |
|---|---|---|---|---|---|---|---|---|
| 2011 | Monthly | 502 | 414 | 601 | 369 | 529 | 506 | 412 |
| | Annually | 6024[40] | 4968 | 7212 | 4428 | 6348 | 6072 | 4944 |
| 2019 | Monthly | 1422 | 1000 | 1842 | 1341 | 1363 | 1522 | 1409 |

[39] See Appendix A, table 2.
[40] Inflation adjusted expenditure is RS 4113

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Annually** | 17064[41] | 12000 | 22,104 | 16,092 | 16356 | 18264 | 16908 |
| **2011-2019** | **Percentage Change %** | 183[42] | 141 | 206 | 263 | 157 | 200 | 241 |

**Source:** Authors' own calculation, HIES

Earlier in 2011, on an average a Pakistani household spend Rs 6024 annually on the readymade food products. This expenditure has increased massively over time to Rs 17,064 (Rs 7205) in 2019. Every household's expenditure on readymade food has increased by 75% of what it was in 2010. On an average an urban household spend Rs 22,104 annually on the readymade food products whereas rural household spend Rs 12,000 annually. At the provincial level, Sindh has the highest average annual expenditure i.e. Rs 18,264 which is followed by Punjab, Baluchistan and KPK. There can be three major factors for the growing market potential of Sindh i.e. the rising population as it houses one of the biggest cities of Pakistan. Moreover, the purchasing power of people has increased as there are spending more on readymade food products. This phenomena can also be seen from the consumption pattern of such households in table 4.2. Their expenditure share on readymade food products is the highest among all the provinces. Secondly the culture of consumerism and user friendly applications overall the country have led to the increased market demand of readymade food products. Moreover, due to the technological development, different user friendly applications of food and grocery deliveries (airlift, grocers) have been readily operational in the urban areas.

[41] Inflation adjusted expenditure is Rs 7205
[42] Percentage change inflation adjusted 75%

Various companies of the readymade food have also introduced such applications from which the consumers can easily order at the convenience of their homes. These grocery and food delivery applications have increased the accessibility and ease especially for the women in dual income earning families. However, such applications have been proved very fruitful for the housewives of the nuclear families due to unavailability of someone to get food from the market.

So, it is evident the market's growth potential and consumer demand has increased over time as the households have directed their consumption pattern towards high value added products in Pakistan.

# CHAPTER 6

# INCOME AND PRICE ELASTICITY

## 6.1 Elasticities

The basic analytical modeling of QUAIDS demand system (Banks, Blundell, and Lewbel, 1997) and the detail formulas of the demand elasticities were discussed in the previous chatper[43]. This chapter empirically analyses the demand elasticities such as income, uncompensated and compensated price elasticities for the readymade and other food groups at the national, provincial and regional level.

### 6.1.1 Income Elasticity

Income elasticities estimated for twelve food groups are elaborated in the table no 4[44]. The results indicated that income elasticities are positive for all the food groups as they depicted positive signs at national, regional and provincial level. The positive sign elaborated all the food groups can be characterized as normal goods. As the income of the households rise, the demand of households for readymade food, milk, meat, fruits, spices, sugar, cereal, pulses, bakery, oil and tea rises as well. However, the proportion of increase in the demand as of the rise in income varies for at the national, regional and provincial level. The demand for the food groups such as meat, meat, fruits, spices, sugar, pulses, oil and tea is inelastic as the their demand does not increase with higher proportion than the proportion of income spend on these food groups. So, it implies that households will spend relatively less on these food groups as their proportion of income increases.

However, an interesting consumption pattern can be observed among the households for the two specific food groups such as readymade food and milk and its products. The households have directed their consumption towards these food groups and demand relatively as their proportion of income increases. The elasticity for Milk& Milk products and readymade food at the national level was found to be 1.15 and 1.57 respectively. Readymade food group has the highest income elasticity i.e. as the income of the

[43] Chapter No 4, Methodology
[44] See Appendix A, Table no 4.

households increase by 1%, the demand of readymade food products[45] increased by 57% respectively at the national level. Similarly, with a 1% proportionate increase in the income, the households' demand increased by 15% for the milk and its products[46]. These changes in the consumption patterns can also be observed from the table 4.1. The table 4.1 also depicts that over the eight years, households have increased their expenditure share on the milk and milk products and readymade food products by 28% and 133%, the highest among all the food groups. Subsequently, this lead us to the conclusion that overall the households have directed their consumption patterns towards high valued added food groups such as readymade food and milk food group with a greater market and consumer potential.

In addition, an interesting pattern can be observed for Cereals and baked items food groups as they neither fall in the categories of necessities nor high value food. The demand for these is found to be neither income inelastic nor elastic[47]. The table 4.1 also depicts overall decrease in the expenditure share on baked and cereals food groups over the eight years by 33.3% and 10% respectively.[48] These trends are found to be consistent at the regional and provincial level as well. However, milk and milk products have relatively become more elastic in KPK among all the provinces. Moreover, readymade food have relatively more income elastic demand in the rural areas as compared to the urban areas. It is also shown in the table 4.3, as over the eight years, the demand for readymade food by the rural areas have increase by 59% in Pakistan.

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[45] See HIES female questionnaire, Section 6/F for products details.

[46] The milk and its products include, milk fresh, lassi, tea whitner, yougurt,eggs, milk pwder, milk tetra pack, dry milk powder for children.

[47] Except for KPK, the demand for baked food group is found to be income elastic.

[48] The findings of the study as in consistent with the results obtained by (Jalil &Khan,2018)

### 6.1.2 Price Elasticity

The own price elasticities have been classified into compensated and uncompensated price elasticities. The uncompensated elasticities show change in the quantity demanded due to a change in the price of the commodity and captures only the price effect. Whereas, compensated elasticities show a change in the quantity demanded and highlights the substitution effect. These elasticities estimated for twelve food groups are elaborated in the table no 5 and 6[49].

The uncompensated and compensated own price elasticities have depicted negative sign as of expected for all the food groups. These elasticities are found to be less than 1 for all the food groups except for the readymade food products. It implies that the responsiveness of fluctuations in the prices can significantly influence the demand of readymade food market either positively or negatively respectively. Nationally, a 1% fluctuation in uncompensated own price elasticity will either lead to 18% increase or decrease in the demand of readymade food products in Pakistan. This highly sensitive or elastic demand of readymade food market indicates a competitive market, with a massive revenue generating potential for our economy, keeping in view the price stability. Regionally, the demand is more elastic in rural areas than the urban areas implying an emerging market in the rural region of Pakistan. Cereals have the highest magnitude of compensated own price elasticity other than the readymade food products i.e. 0.91[50]. Whereas the lowest magnitude of compensated elasticity was of the meat i.e. 0.25 respectively. Apart from the readymade products, all the other food groups have negative and less than zero elasticity estimates. It

[49] See Appendix A, Table 5.
[50] See Appendix table 6.

indicates that price fluctuations have slight effect on the demand of these food groups. However, the price elasticity of readymade food group was found to be elastic for Baluchistan, Punjab, KPK and the rural region other than in Sindh and the urban region. It implies that demand is highly responsive to the fluctuation in the prices in these provinces and the rural region with a growing acceptability for the readymade products.

So we can conclude that high value added and readymade food products have income elastic and price elastic demand in Pakistan varying differently across regions and provinces. The demand of these high value products is highly responsive to the even a small increase in the income and reduction in the price indicating the growth potential in value addition with rising consumer's income. However, for the stakeholders it would be imperative to overcome the supply challenges and manage production costs effectively as demand and revenue is sensitive to fluctuations in the prices. In short, these results may provide us with the production and food policy interventions on the behalf of the government.

QUAIDS model was being applied to estimate the demand elasticities. Log likelihood ratio test was being conducted to test the workability of the model and restrictions as in suggested by the literature studies. The test relies on the unrestricted model and we test the null hypothesis whether $\lambda = 0$. This test tell us about the significance of our model and is an important test. Hence we rejected null hypothesis of $\lambda = 0$ and concluded that QUAIDS is a valid model for our research study.

# CHAPTER 7

# NATIONAL INDUSTRIAL FOOD POLICY AND ROLE OF GOVERNMENT IN REGULATING READYMADE FOOD MARKET OF PAKISTAN

This chapter discusses the importance and construction of national industrial food policy and role of the government in regulating the readymade food market of Pakistan. For the purpose of fulfilling the above mentioned objectives interviews were being conducted from the ministry officials and regional sales manager of K&Ns, big bird and menu to discuss the following questions.

**Discussion questions**

1. At present, how the government facilitates in regulating the respective readymade food company/market/high value food demand?
2. What kind of government facilitation is demanded by the stakeholders of the readymade food market to reach market's full potential?
3. Do Pakistan has any National Industrial food policy or National Food processing policy?

## 7.1 The Need for Government Facilitation in Regulating the Demand of High Value/ Readymade Food in Pakistan

Government facilitation plays an important role in the development of any sector or industry. As it has been observed in the analysis of budgetary allocations that consumption patterns have been diverted towards high value and readymade food products indicating that Pakistan has an emerging market demand for such products. Moreover the demand of these high value products is highly responsive to the even a small increase in the income and reduction in the price indicating the growth potential in value addition with rising consumer's income. However, for the stakeholders it would be imperative to overcome the supply challenges and manage production costs effectively as demand and revenue is sensitive to fluctuations in the prices. In short, these results may provide us with the production and food policy interventions on the behalf of the government.

The irony is despite being an agricultural country along with an emerging readymade/ processed food sector, the country is unable to fully meet the changing demand for high value food products that it can easily produce and export, accounting for a very high import bill. So, it’s a high time for the government to analyse the buldge not only in domestic but international market demand and to facilitate it by driving the focus of production from traditional low value grain products towards high value crops and readymade products (Ali, 2018). Traditional production systems, no proper planning and lack of guidance about changing consumer demand and preferences to the farmers results in harvesting the same low value traditional crops. Similarly lack of processing and storage facilities results in the imports high value products every year by spending millions of dollars to fulfill the local demand (Nazir and Lohano 2022). It can be observed from the figure 6.1 depicting the value of exports and imports of fruits and vegetables for Pakistan from 1990 to 2021.Pakistan is a net importer of fruits and vegetables rather being an agriculture economy with immense potential of exporting these. Although the country’s exports have seen an increasing trend over these years but it couldn’t keep pace with its imports

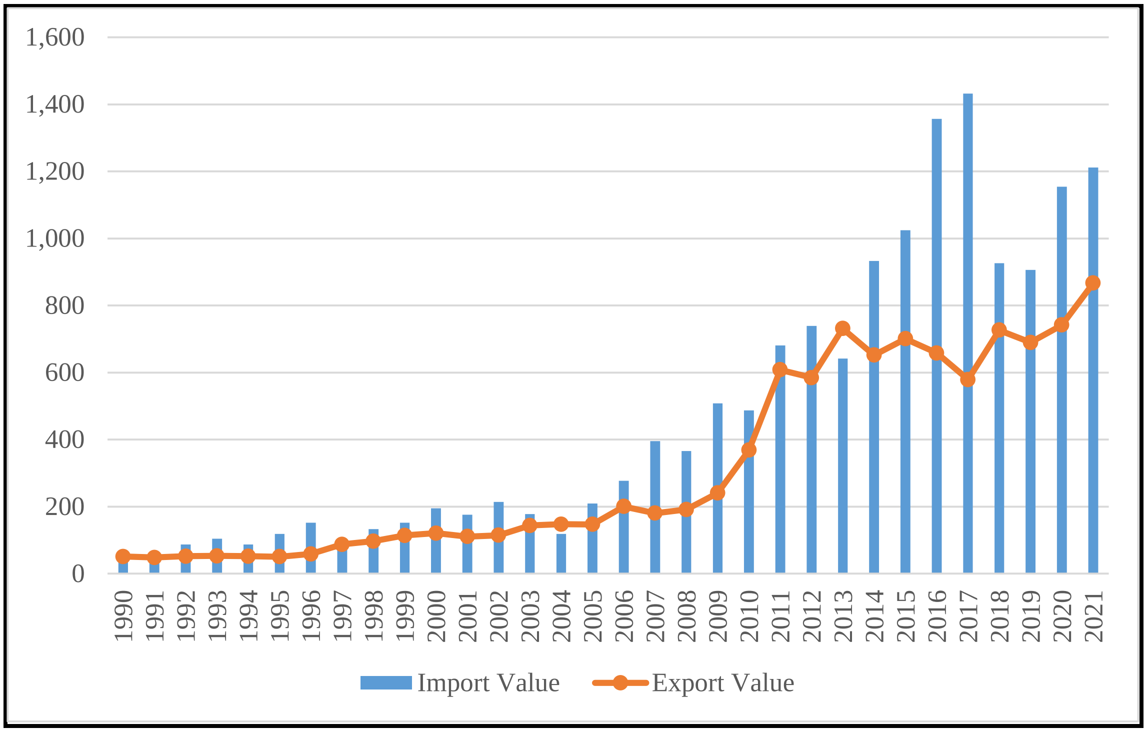


***Figure 7.1:*** *Trends in Export and Import of Fruits and Vegetables, in Thousand USD.*

**Source:** FAOSTAT (2022)

During this period, the country's exports have increased from USD 51 thousand to 86 thousand. However the imports of fruits and vegetables have increased with a much larger pace. Vegetables like peas, potatoes, carrot, spinach, bitter gourd are abundantly produced in central Punjab. Whereas mangoes and oranges are produced in larger quantities in Pakistan. Internationally there is a growing market of value addition in these fruits and vegetables such as in 2015 the market for frozen vegetables and fruits was worth USD 6 billion. Pakistan can easily fulfill the local and international demand of the fruits and vegetables if as government direct its policies to support and facilitate the supply chain issues experienced by the stakeholders such as farmers and readymade frozen food producers.

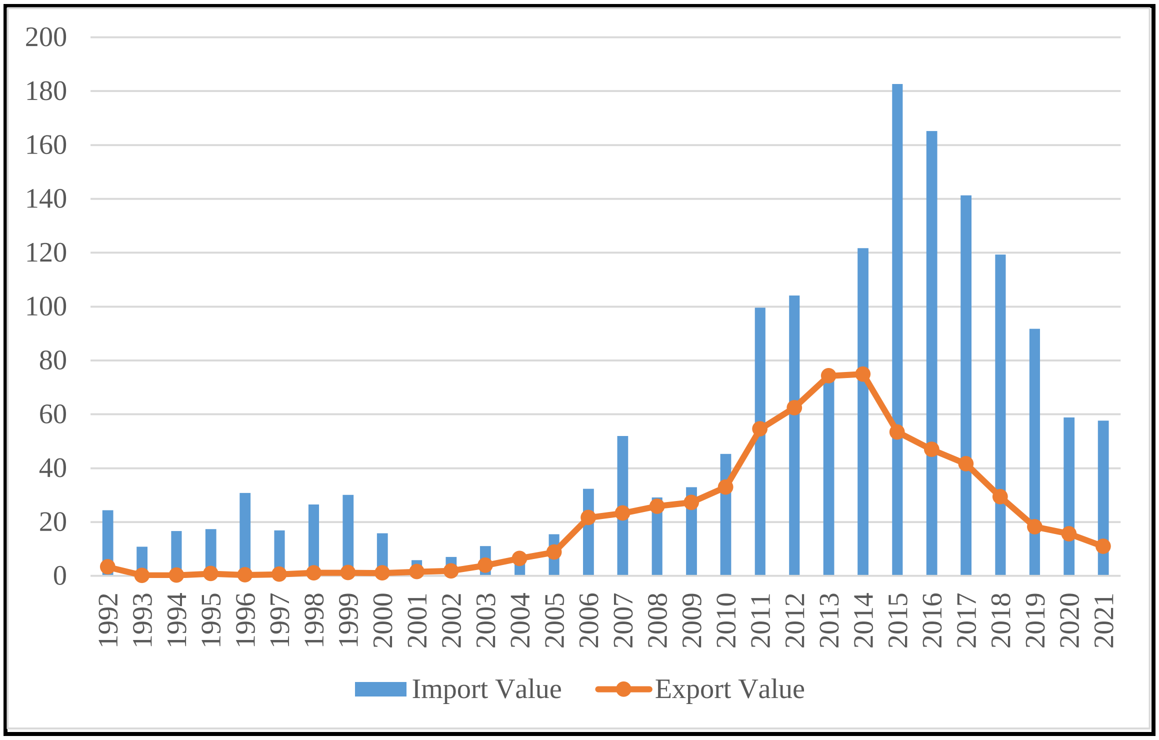


***Figure 7.2:*** *Trends in Export and Import of Dairy Products, in Thousand USD*

**Source:** FAOSTAT (2022)

The figure 7.2 depicts the gradual decline in the export of dairy or milk based products whereas a rise in import of such products from USD 24 to 57 thousand. However the dairy and livestock are one of the largest sectors of in Pakistan have immense growth potential as both of these contribute almost 49 percent of the value addition in the agriculture sector of the economy.

Dairy based products can easily be produced locally to overcome the demand challenges such as dry milk, cheese which are contributing tremendously in the country's import bill. Lack of storage and transportation facilities along with other supply chain issues results in exporting to only a few low paying countries along with importing high value dairy products. Similarly government facilitation is required in value addition and product diversification to address the supplychallenges faced by the stakeholders.

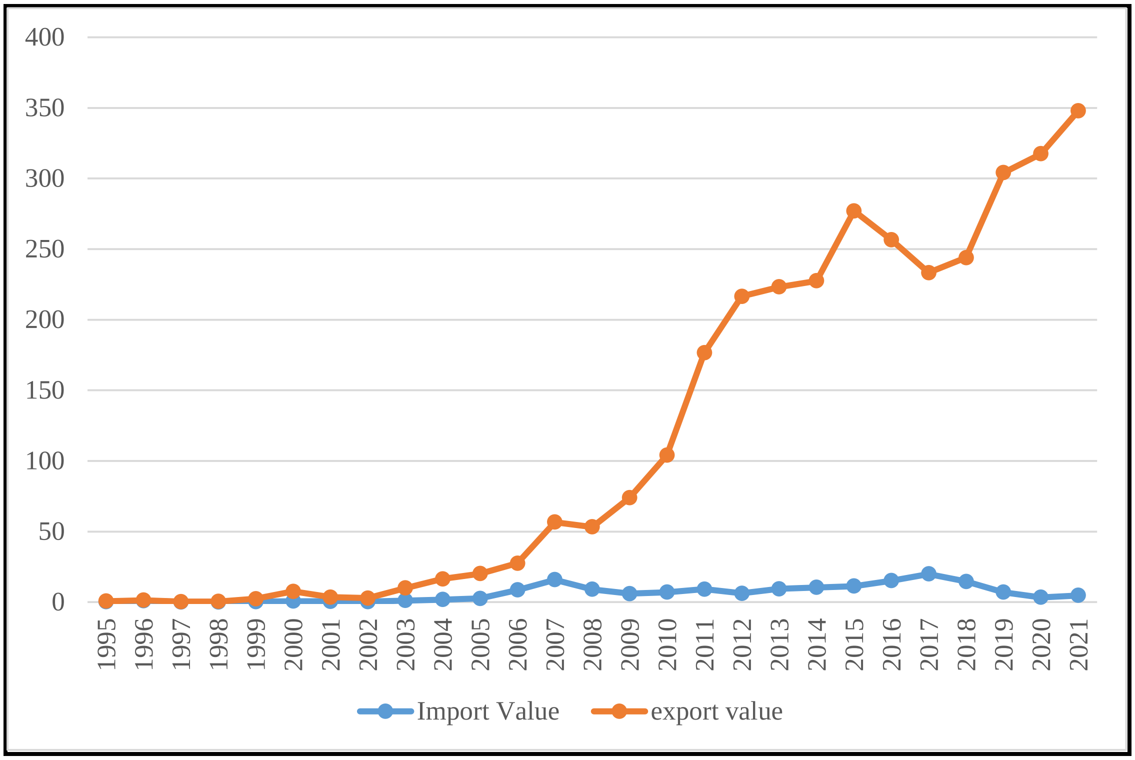


***Figure 7.3:*** *Trends in Export and Import of Meat, in Thousand USD.*

**Source:** FAOSTAT (2022)

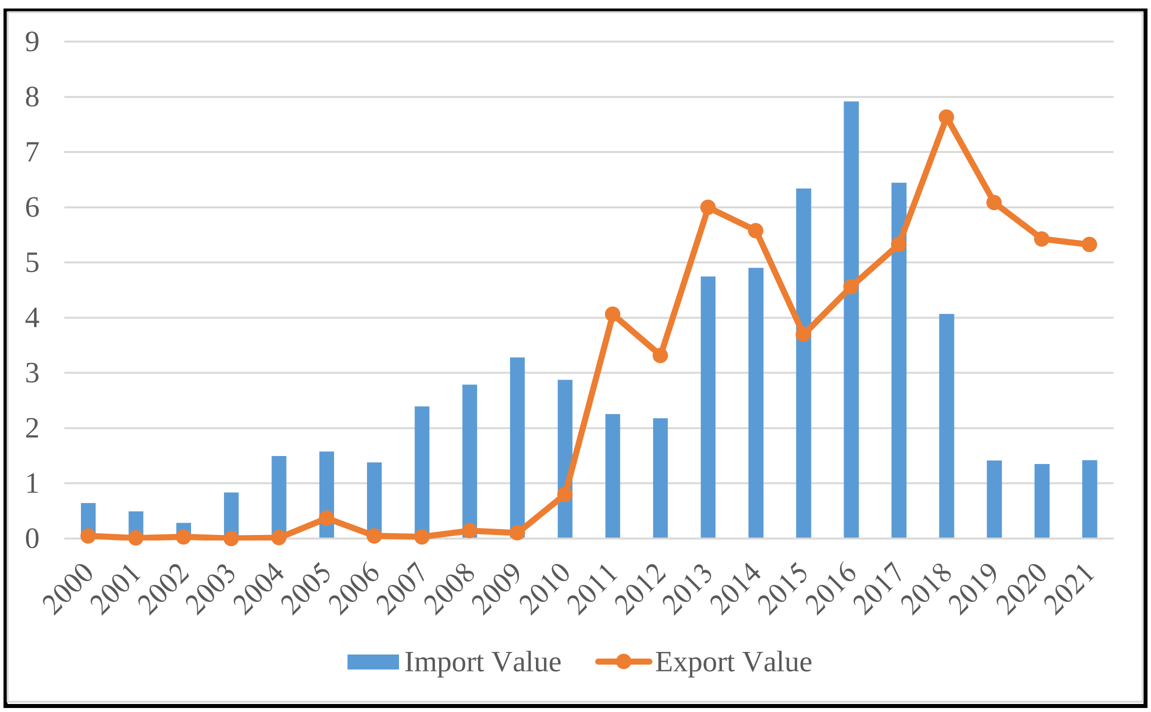


***Figure 7.4:*** *Trends in Export and Import of Poultry, in Thousand USD.*

**Source:** FAOSTAT (2022)

The figure 7.3 and 7.4 depicts that value of exports are way higher than that of the imports of meat and poultry in Pakistan. Although the imports have also shown an increasing pace but low in intensity than the exports. The above figures depict that these sectors have an edge over the fruits, vegetables and dairy sector having an immense potential of value addition to overcome the demand locally as well as internationally.

Brazil is the world's largest exporter of meat based live and processed poultry and its processed food industry is subsidized in terms of electricity, feed and other raw materials that are required for the fattening of a good breed. The result of provision of this subsidy was the cheap production and sale of the Brazilian product in the local and international market. Moreover, their products also becomes highly competitive in terms of price in the international market. Afghanistan is importing the chicken from Brazil due to the cheap cost of the product. Unfortunately Pakistan's high court has imposed a ban on export of chicken to Afghanistan back in 2011 that still has created a gap in the market. It was considered as an opportunity by the Brazilian producer and the country started exporting to Afghanistan. If such product is imported in Pakistan, it would be cheaper than the locally available products besides including all the freight and import duty due to the provision of subsidy by the government[51]. This requires government facilitation in terms of policies that can overcome the cost and supply chain challenges of the producers making it difficult for them to supply effective rates.

Moreover, despite being an exporter of meat and poultry, the government's policy of importing of chicken under the FTA agreement signed with various countries such as Malaysia resulted in local business losses as most of the readymade food companies are

[51] Interview of regional sales manager, K&Ns, Menu,

eligible of meeting the requirements of multinational chains in Pakistan. Unfortunately, under this agreement the multinational corporations prefer importing cheap chicken from Malaysia.[52] In addition, the government has also imposed duty on the import of the grandparent chicken that serve as a basic element of the live and processed poultry. Various companies itself have engaged officials from different government institutions and conducted sessions, highlighting the annual turnover of their company to direct government's attention. For example, Pakistan Poultry Association usually engages various government officials and members of the business community from Chamber of Commerce and Industry, demonstrating the growth potential of their company. Some companies also send their delegates to other countries for the business promotion and trainings to maintain a standard quality. This sector lacks the provision of any subsidy in terms of cheap electricity and animal feed.[53]

It therefore points to the fact that government action is required in terms of policies to support the production of high value and diversified products that Pakistan can easily supply especially those in which it still has edge over imports such as meat and poultry. The focus must be on the demand, based on the product's attributes such as high value and readymade products rather than focusing on the supply and production of the traditional grains having export potential (Ali 2018).

One way of addressing these issues to support high value and readymade food products can be the construction of National Industrial Food and processing policy in the Pakistan.

[52] Interview of regional sales manager, K&Ns, Menu,
[53] Interview of regional sales manager, K&Ns, Menu,

### 7.2 Formulation of National Food Policy in Pakistan[54]

Although the Ministry of Industries and Production is working on developing national industrial food policy; but presently Pakistan lacks any supportive National Food Processing Policy.

In this regard, it was found out that the Ministry collaborated on a research with the Asian Development Bank and have identified thirty potential industrial sectors having immense growth and no supportive industrial policy. The formulation of a National Food Processing policy is one of the main segments of food policy formulation as the market for high value and readymade food products has grown rapidly over the past few years. In addition, out of these thirty sectors, fourteen sectors were selected for an immediate policy formulation and food sector was among them. These fourteen sectors were further classified on the basis of three categorization in terms of their relative importance as follows.

1. Low Hanging Sector
2. Balanced Approach Sector
3. Moon Shot Sector

Low hanging sectors require no immediate policy interventions whereas moon shot sectors require immediate policy formulation. Balanced approach sectors require neither immediate nor delay in terms of policy formulation. Some of the sectors included in the balanced approach policy formulation are plastic sector, textile sector, power sector and

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[54] Explanation is based on the Interview of Mr. Imran Latif Minhas, Joint Secretary, Large Enterprise Development (LED) & Ms. Sadia Iftikhar Deputy Secretary, Large Enterprise Development (LED-II), Ministry of Industries and Production, Government of Pakistan

mobile sector. Whereas, electric and rechargeable batteries sector is mainly included in moon shot sector. The priority areas in the formulation of the National Food Processing policy mainly include cooking oil, juices, milk, processed and readymade meats of all kinds and sausages. Moreover, SMEDA[55] also has conducted meetings with the prominent stakeholders who requested to support high value and readymade food sector through a specific food policy formulation addressing the constraints areas. These areas include

- Formulation of modernized and cost effective pulping plants,
- Certification issues for export to promote the ease of doing business.
- Low cost packaging policy.
- Lower custom duty on imported raw material used by the food processing or readymade food manufactures that is not being produced in Pakistan.
- Formulation of effective zero rated packaging policy to reduce the production cost so to establish product competitiveness in the national and international market.
- Lack of availability of funds allocated for the research, technological and infrastructural development to promote cost effective access of readymade food products to far flung areas.
- No temperature efficient cold storage facility is being provided on the part of the government to the stakeholders as well.

[55] Small Medium Enterprise Development Authority, conducted meeting on 15th February, 2022.

However, the proposal for the formulation of national food processing policy by the ministry of industries and production is still in its initial phase and will require a good amount of time in its formulation and to reach the cabinet for approval as per the political scenario is concerned in Pakistan. Government need to prioritize the sectors and subsectors having enough demand and export potential such as high value and readymade food market. Moreover, to deal with the price sensitive consumer, government facilitation is required to properly address to properly address the supply chain and export challenges as demand and revenue is sensitive to fluctuations in the prices.

# CHAPTER 8

# POLICY RECOMMENDATION AND CONSLUSION

## 8.1 Recommendations

The market analysis and empirical results may provide us with the production and food policy interventions on the behalf of the government as demand and revenue is sensitive to price fluctuations. It can either be through the construction of National Industrial Food and Processing policy in the near future or by implementing some of the following policy measures directly to overcome the supply and production cost challenges by the producer so to maintain price stability.

### 8.1.1 Development of Cold Chain Mechanism and Provision of Storage facilities

The development of an efficient and cost effective cold chain mechanism is a fundamental infrastructure for regulating the supply chain of readymade or processed food products. Effective measures must be taken for the development of an effective cold chain distribution mechanism, provision of storage, modern pulping plants, warehouses and modernized processing technology for high value products such as milk, meat, fruits and vegetables. Moreover investment in modern freezing technology such as individual quick freezing for fruits and vegetables which mostly are sold in the local markets has a huge export market if processed.  Pakistan fortunately produces a large variety of quality vegetables if processed can be served as a mean of earning huge foreign exchange. So, provision of these facilities will limit the cold chain breaks and temperature abuse that will facilitate in regulating the supply. In addition to these, food policy should also incorporate measures in developing the computerized temperature monitoring mechanism that can monitor the temperature throughout the distribution system. This temperature monitoring mechanism can effectively regulate time and temperature of the products that can reduce the probability of cold chain break thought out the distribution system. Government should provide low cost financial assistance in implementing the technology used in the development of such a mechanism so it can be readily implemented by each stakeholder of the industry.

### 8.1.2 Standardization and Enforcement of Food Regulations for National and International Market

Government should introduce and enforce standard food regulations for each and every stakeholder of the industry i.e. either that is related in maintaining a standardized food quality or distribution or retailing regulations. These regulations should be enforced and communicated by the specific institutions clearly to the concerned stakeholders as there are numerous regulatory authorities with different regulations operating at the provincial levels. In addition, the regulatory authorities should keep unplanned regular checks on manufacturers, service providers and food retailers to ensure compliance.

The export dilemma is that companies are illegible to export meat based products from Pakistan[56] due to the lack of standard international market regulations and specific institutions operating in Pakistan. Although the companies[57] have adopted best quality standards but still cannot export meat based products especially to United States from Pakistan such as K&Ns and Dawn etc. So, the government should rigorously work on the developing standard food quality regulations for national and international markets.

[56] K&Ns and Dawn have their plants operational in United States to export meat based products.
[57] The explanation retrieved during the interview from the regional sales manager Big Bird & K&Ns.

Moreover should ensure proper functioning of the regulatory organizations. It should ensure flexibility in terms of certification and other paper work to promote ease of doing business in other countries. Moreover, policies such importing of poultry and meat under the FTA agreement that the local industry can easily supply must be banned. High import duties should be apply on such imports and ban should be lifted from the countries to which Pakistan can easily export such as Afghanistan.

### 8.1.3 Provision of Industry Specific Credit

Government should introduce the industry specific loans/financial schemes on lower rates of interest or cash backs through the State Bank of Pakistan. These industry specific loans only should be issued for purchasing effective production technology to enhance the potential of the market. Moreover, these financial schemes should also finance the international trainings and workshops recognized by the government. Moreover, the farmers are less aware of the market value and demand of high value crops. If even aware are not ready to take risk so some kind of insurance mechanism or must be built that will ensure confidence to the farmer in growing high value crops. It will not only enhance their confidence but also improve their livelihoods.

### 8.1.4 Provision of Subsidy on Electricity and Animal Feed

Government should provide electricity/solar panel technology at subsidized rates to the sector in order for the product to be cost effective especially internationally and to reduce retail level inefficiencies. Moreover, government should also focus on the provision of subsidy on animal feed as in the countries like Brazil and Denmark for the product to be internationally competitive. All these measure are extremely important as the sector is highly sensitive to price fluctuations.

### 8.1.5 Development of Associations to build Industry Coordination

The National food policy should incorporate effective measures to promote food industry coordination and regulation by developing associations. Government should develop/form a committee or a proper communication structure (association) for the member firms of readymade processed food industry in order to establish a link among them. The association should also include the relevant private/public regulatory authorities. The main objective of the association is to communicate the government regarding the challenges faced by the players in the industry. In addition it will serve as a forum to provide information about the new market trends, technological development and export markets.

The government should conduct national and international awareness workshops regarding modernization of production mechanisms, food quality systems etc under these associations to establish links among the members. It will provide business opportunities to the new investors by alleviating economic constraints. With the government's facilitation, the investors will find it profitable to invest in this newly growing sector with immense potential.

### 8.1.6 Tax Breaks

The government should provide tax breaks or incentives to the readymade food manufacturers in terms of lower import duties on import of raw materials used in production. It would be helpful in terms of marinating the cost by the stakeholders. In addition, government should announce zero custom duty on raw material imported for packaging as in Pakistan there is only one supplier of aluminum tins. Moreover, it should also lower the import duties on freezers usually only imported by the big retailers or distributor to make them accessible for small retailers and distributors. In this way, the product would reach to areas far flung areas with the least possibility of being spoiled.

## 8.2 Conclusion

The study explored the changing consumption pattern and the market potential of the readymade food at the national, regional and provincial level. The findings indicated as the consumption pattern have changed and evolved towards the high value food groups over the years.

The households have exhibited higher potential and acceptability towards the diversified, high value and readymade food rather than the traditional staple food. The expenditure share on cereals although is still contributing the highest but has shown a declining pattern substantially over the period (2011-2019). Households have diverted their consumption towards the high value food groups like milk and milk products, fruits, readymade food products. Whereas a positive preference by households and growth in budgetary allocation is found in a value added food category of readymade food at the national, regional and at provincial level. Moreover, we estimated demand elasticities by employing QUAIDS model that as it is a flexible model and captures the nonlinearity of income. Over the time, consumer acceptability and potential for product diversification has evolved, as the percentage change in the distribution share and demand on the readymade food being the highest among all the food groups. High expenditure elasticities indicated consumers' potential to considerably increase the demand of high value and readymade food products with a slight reduction in prices and increment in their incomes. Among all the other food groups, demand for readymade food products is expected to increase the most with a rising household's income and price reduction Moreover, it shows the growth potential in value addition with the increase in consumer's income.

In a nutshell, Pakistan has an emerging market in value addition such as for readymade food products having tremendous potential to fulfill the domestic and international demand as well as generating millions of dollars of export revenue ultimately reducing the import bills. Moreover, government action is required in terms of policies to support the producer for high value and diversified products that Pakistan can easily supply especially those in which it still has edge over imports such as meat and poultry. The focus must be on the demand based on the product's attributes such as high value and readymade products rather than focusing on the supply and production of the traditional grains.

Government need to prioritize the sectors and subsectors having enough demand and export potential such as high value and readymade food market (Nazir and Lohano 2022). However, for the government and stakeholders it would be imperative to overcome the supply challenges and manage production costs effectively as demand and revenue is sensitive to fluctuations in the prices. In short, these results may provide us with the production and food policy interventions on the behalf of the government.

One way of addressing these issues to support high value and readymade food products can be the construction of National Industrial Food and processing policy in the Pakistan. Though, the proposal for the formulation of the policy is still in its initial phase and requires a good amount of time. Whereas, tax breaks, provision of storage, modern pulping plants, modernized processing/ freezing technology, development of associations for industry coordination and standardization of food regulations and low cost packaging policy are some of the few recommendations to be considered in formulating the policy.

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# APPENDICES

**Appendix A**

**Table 1: Changes in the Food Consumption Pattern in Pakistan, 2011-2019**

| Food Commodity Groups | Province/ Region | 2010-2011 % | 2018-2019 % | % Change 2010-11 2018-19 |
|---|---|---|---|---|
| **Cereals** | Overall | 20 | 18 | -10 |
| | Rural | 20 | 19 | -5 |
| | Urban | 19 | 16.2 | -14.73 |
| | KPK | 24.1 | 22.4 | -7.05 |
| | Punjab | 16.7 | 14.9 | -10.77 |

| | | | | |
|---|---|---|---|---|
| | Sindh | 18.9 | 18.7 | -1.05 |
| | Baluchistan | 23.5 | 21.5 | -8.51 |
| **Pulses** | Overall | 3 | 2.9 | -3.33 |
| | Rural | 3.5 | 3.1 | -11.42 |
| | Urban | 2.9 | 2.3 | -20.69 |
| | KPK | 3.4 | 3.4 | 0 |
| | Punjab | 3.4 | 2.8 | -17.64 |
| | Sindh | 2.9 | 2.2 | -24.13 |
| | Baluchistan | 3.6 | 3.5 | -2.77 |
| **Edible oils** | Overall | 12.5 | 10 | -20 |
| | Rural | 13.7 | 11 | -19.70 |
| | Urban | 10.8 | 8 | -25.92 |
| | KPK | 12.7 | 9.9 | -22.04 |
| | Punjab | 13.5 | 10.8 | -20 |
| | Sindh | 11.6 | 9.2 | -20.69 |
| | Baluchistan | 10.9 | 10.5 | -3.66 |
| **Tea** | Overall | 3 | 4.2 | 40 |
| | Rural | 3.4 | 4.8 | 41.17 |
| | Urban | 2.5 | 3.2 | 28 |
| | KPK | 3.5 | 4.5 | 28.57 |
| | Punjab | 2.2 | 3.7 | 68.18 |
| | Sindh | 4.3 | 4.4 | 2.32 |
| | Baluchistan | 3 | 5.3 | 76.66 |
| **Spices** | Overall | 4.4 | 4 | -9.09 |

| | | | | |
|---|---|---|---|---|
| | Rural | 4.6 | 4 | -13.04 |
| | Urban | 4.1 | 3.7 | -9.75 |
| | KPK | 3.5 | 3.3 | -5.71 |
| | Punjab | 5.3 | 4.2 | -20.75 |
| | Sindh | 3.9 | 3.9 | 0 |
| | Baluchistan | 3.6 | 4.2 | 16.66 |
| **Milk and Milks products** | Overall | 15 | 19.3 | 28.67 |
| | Rural | 10.7 | 15.5 | 44.85 |
| | Urban | 20.3 | 26.3 | 29.55 |
| | KPK | 12.6 | 14.8 | 17.46 |
| | Punjab | 17.1 | 22.2 | 29.82 |
| | Sindh | 15.7 | 19.8 | 26.11 |
| | Baluchistan | 7.5 | 12.2 | 62.66 |
| **Meat/Poultry** | Overall | 10.6 | 8.2 | -22.64 |
| | Rural | 10.2 | 8.1 | -20.58 |
| | Urban | 11 | 8.3 | -24.54 |
| | KPK | 8 | 8.1 | 1.25 |
| | Punjab | 9.1 | 7.3 | -19.78 |
| | Sindh | 12.1 | 8.4 | -30.57 |
| | Baluchistan | 15.7 | 12.4 | -21.01 |
| **Fruits** | Overall | 3.5 | 5.1 | 45.71 |
| | Rural | 3.4 | 5 | 47.05 |
| | Urban | 3.8 | 5.3 | 39.47 |
| | KPK | 3.3 | 5.6 | 69.69 |

| | | | | |
|---|---|---|---|---|
| | Punjab | 4.5 | 6.1 | 35.55 |
| | Sindh | 2.8 | 3.9 | 39.28 |
| | Baluchistan | 2 | 2.7 | 35 |
| **Vegetables** | Overall | 11.6 | 12.2 | 5.17 |
| | Rural | 12.8 | 13.6 | 6.25 |
| | Urban | 9.9 | 9.8 | -1.01 |
| | KPK | 11.7 | 12.3 | 5.12 |
| | Punjab | 11.7 | 13.2 | 12.82 |
| | Sindh | 10.5 | 10 | -4.76 |
| | Baluchistan | 13.3 | 13.3 | 0 |
| **Sugar and its Products** | Overall | 11.9 | 7.5 | -36.97 |
| | Rural | 13.6 | 8.4 | -38.23 |
| | Urban | 9.2 | 5.9 | -35.87 |
| | KPK | 13.7 | 8.8 | -35.76 |
| | Punjab | 10.9 | 7.1 | -34.86 |
| | Sindh | 11.3 | 7 | -38.05 |
| | Baluchistan | 13.6 | 8 | -41.17 |
| **Readymade food** | Overall | 3 | 7 | **133.33** |
| | Rural | 2.6 | 5.8 | 123.07 |
| | Urban | 3.9 | 9.6 | 146.15 |
| | KPK | 2 | 5.8 | 190 |
| | Punjab | 3.7 | 6.3 | 70.27 |
| | Sindh | 3.6 | 10.7 | 197.22 |
| | Baluchistan | 2 | 4.6 | 130 |

| | | | | |
|---|---|---|---|---|
| **Baked items** | Overall | 1.3 | 1 | -23.07 |
| | Rural | 1 | 1 | 0 |
| | Urban | 1.7 | 1.3 | -23.52 |
| | KPK | 1.1 | 0.5 | -54.54 |
| | Punjab | 1.2 | 1 | -16.667 |
| | Sindh | 1.8 | 1.6 | -11.111 |
| | Baluchistan | 0.89 | 1.2 | 34.8315 |

Source: Author's own calculation, HIES.

**Table 2:** Demand of Ready Made Food based on Product categorization, 2018-2019

| Product category | Province/Region | % of RMF Demand |
|---|---|---|
| **Cooked Meat/chicken** | **KPK** | 8 |
| | **Punjab** | 4 |
| | **Sindh** | 6 |
| | **Baluchistan** | 5 |
| **Cooked Dal** | **KPK** | 12 |
| | **Punjab** | 10 |
| | **Sindh** | 14 |
| | **Baluchistan** | 8 |
| **Cooked Vegetable** | **KPK** | 14 |
| | **Punjab** | 6 |

| | | |
|---|---|---|
| | **Sindh** | 12 |
| | **Baluchistan** | 8 |
| **Nihari/paye** | **KPK** | 2 |
| | **Punjab** | 5 |
| | **Sindh** | 25 |
| | **Baluchistan** | 3 |
| **Cooked rice** | **KPK** | 9 |
| | **Punjab** | 5 |
| | **Sindh** | 25 |
| | **Baluchistan** | 6 |
| **Tea** | **KPK** | 22 |
| | **Punjab** | 16 |
| | **Sindh** | 64 |
| | **Baluchistan** | 31 |
| **Milk shakes/juices** | **KPK** | 2 |
| | **Punjab** | 2 |
| | **Sindh** | 9 |
| | **Baluchistan** | 2 |
| **Carbonated Drinks** | **KPK** | 5 |
| | **Punjab** | 8 |
| | **Sindh** | 16 |
| | **Baluchistan** | 14 |
| **Mineral water** | **KPK** | 2 |
| | **Punjab** | 5 |
| | **Sindh** | 12 |
| | **Baluchistan** | 3 |
| **Pizza chips, junk food** | **KPK** | 5 |
| | **Punjab** | 16 |
| | **Sindh** | 28 |
| | **Baluchistan** | 10 |
| **Soups/salads** | **KPK** | 11 |
| | **Punjab** | 13 |
| | **Sindh** | 12 |
| | **Baluchistan** | 3 |
| **Tikka & Kababs** | **KPK** | 14 |
| | **Punjab** | 6 |
| | **Sindh** | 17 |

| | | |
|---|---|---|
| | **Baluchistan** | 6 |
| **Bread/ Parathas** | **KPK** | 26 |
| | **Punjab** | 18 |
| | **Sindh** | 35 |
| | **Baluchistan** | 12 |
| **Other RMF** | **KPK** | 7 |
| | **Punjab** | 7 |
| | **Sindh** | 2 |
| | **Baluchistan** | 2 |

Source: Author's own calculation, HIES.

*out of the total provincial and regional sample

**Table 3:** Monthly/Annual Expenditure of RMF users on Ready Made Food

| **Year** | **Province/Region** | **Monthly Expenditure on RMF (Rs)** | **Annual Expenditure on RMF** |
|---|---|---|---|
| **2019** | Overall | 1,422 | 17,064 |
| | Urban | 1,842 | 22,104 |
| | Rural | 1,000 | 12,000 |
| | KPK | 1,341 | 16,092 |
| | Punjab | 1,363 | 16,356 |
| | Sindh | 1,522 | 18,264 |
| | Baluchistan | 1,409 | 16,908 |

**Table 4: Income Elasticities, 2018-2019**

| Area | Milk &Milk Products | Meat | Fruits | Vegetables | Spices | Sugar | Cereals | Pulses | Bakery | Oil | Tea | Readymade Food |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pakistan** | 1.15 | 0.81 | 0.90 | 0.78 | 0.77 | 0.97 | 1.06 | 0.82 | 1.06 | 0.84 | 0.89 | 1.57 |
| **Rural** | 1.13 | 0.84 | 0.90 | 0.82 | 0.80 | 0.98 | 1.05 | 0.85 | 1.05 | 0.87 | 0.92 | 1.69 |
| **Urban** | 1.14 | 0.80 | 0.90 | 0.71 | 0.74 | 0.96 | 1.06 | 0.77 | 1.06 | 0.79 | 0.85 | 1.43 |
| **KPK** | 1.22 | 0.79 | 0.90 | 0.77 | 0.72 | 0.97 | 1.05 | 0.85 | 1.13 | 0.83 | 0.89 | 1.70 |
| **Punjab** | 1.11 | 0.79 | 0.92 | 0.80 | 0.79 | 0.97 | 1.07 | 0.83 | 1.06 | 0.86 | 0.88 | 1.63 |
| **Sindh** | 1.17 | 0.82 | 0.86 | 0.71 | 0.75 | 0.97 | 1.06 | 0.76 | 1.04 | 0.81 | 0.89 | 1.40 |
| **Baluchistan** | 1.15 | 0.89 | 0.83 | 0.82 | 0.81 | 0.98 | 1.05 | 0.87 | 1.04 | 0.87 | 0.93 | 1.87 |

**Table 5: Uncompensated Elasticities, 2018-2019**

| Area | Milk &Milk Products | Meat | Fruits | Vegetables | Spices | Sugar | Cereal | Pulses | Bakery | Oil | Tea | Readymade food |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pakistan** | -0.61 | -0.25 | -0.68 | -0.61 | -0.89 | -0.78 | -0.91 | -0.47 | -0.86 | -0.80 | -0.83 | -1.18 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rural** | -0.50 | -0.23 | -0.67 | -0.64 | -0.89 | -0.81 | -0.91 | -0.51 | -0.84 | -0.82 | -0.84 | -1.22 |
| **Urban** | -0.71 | -0.28 | -0.70 | -0.53 | -0.88 | -0.70 | -0.90 | -0.37 | -0.88 | -0.76 | -0.78 | -1.14 |
| **KPK** | -0.50 | -0.91 | -0.70 | -0.62 | -0.87 | -0.79 | -0.93 | -0.57 | -0.72 | -0.80 | -0.84 | -1.23 |
| **Punjab** | -0.67 | -0.13 | -0.73 | -0.64 | -0.89 | -0.77 | -0.89 | -0.47 | -0.85 | -0.81 | -0.80 | -1.21 |
| **Sindh** | -0.62 | -0.33 | -0.57 | -0.52 | -0.88 | -0.77 | -0.91 | -0.32 | -0.90 | -0.78 | -0.83 | -1.13 |
| **Baluchistan** | -0.32 | -0.48 | -0.39 | -0.63 | -0.89 | -0.80 | -0.92 | -0.56 | -0.87 | -0.80 | -0.86 | -1.28 |

**Table 6: Compensated Elasticities, 2018-2019**

| Area | Milk &Milk Products | Meat | Fruits | Vegetables | Spices | Sugar | Cereal | Pulses | Bakery | Oil | Tea | Readymade Food |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pakistan** | -0.41 | -0.18 | -0.64 | -0.52 | -0.86 | -0.63 | -0.73 | -0.45 | -0.85 | -0.72 | -0.79 | -1.08 |
| **Rural** | -0.35 | -0.16 | -0.63 | -0.54 | -0.86 | -0.63 | -0.73 | -0.49 | -0.83 | -0.73 | -0.80 | -1.13 |
| **Urban** | -0.44 | -0.21 | -0.65 | -0.47 | -0.85 | -0.59 | -0.74 | -0.36 | -0.87 | -0.70 | -0.76 | -1.01 |
| **KPK** | -0.33 | -0.13 | -0.66 | -0.53 | -0.85 | -0.63 | -0.71 | -0.54 | -0.72 | -0.72 | -0.80 | -1.13 |
| **Punjab** | -0.44 | -0.07 | -0.68 | -0.54 | -0.86 | -0.63 | -0.74 | -0.45 | -0.84 | -0.73 | -0.77 | -1.11 |
| **Sindh** | -0.41 | -0.25 | -0.54 | -0.46 | -0.86 | -0.63 | -0.73 | -0.30 | -0.89 | -0.71 | -0.80 | -0.99 |
| **Baluchistan** | -0.20 | -0.38 | -0.37 | -0.53 | -0.86 | -0.63 | -0.72 | -0.53 | -0.86 | -0.72 | -0.82 | -1.20 |

**Table 4.5:** Segmentation of Readymade Food Demand (Consumption) by Households

| Household Ready Made Food Demand * | (%) |
|---|---|
| **Hotels** | 37 |
| **Home** | 35 |
| **Home & Hotels** | 19 |
| **Home solely** | 16 |
| **Hotels solely** | 18 |

**Source**: Author's own calculation, HIES.
*out of total sample

**Table 4.5:** Segmentation of Market Demand of Ready Made Food Demand in Pakistan

| Ready Made Food Demand | National (%) | Rural (%) | Urban (%) | KPK (%) | Punjab (%) | Sindh (%) | Baluchistan (%) |
|---|---|---|---|---|---|---|---|
| **Hotels** | 37 | 33 | 42 | 29 | 25 | 72 | 36 |
| **Home** | 35 | 21 | 57 | 23 | 31 | 54 | 18 |
| **Home & Hotel** | 19 | 12 | 30 | 8 | 13 | 40 | 13 |

**Source**: Author's own calculation
*out of total sample

**out of the total provincial and regional sample

## Appendix B

The interviews are conducted from the following officials;

1. Mr. Imran Latif Minhas, Joint Secretary, Large Enterprise Development (LED), Ministry of Industries and Production, Government of Pakistan.
2. Ms. Sadia Iftikhar Deputy Secretary, Large Enterprise Development (LED-II), Ministry of Industries and Production, Government of Pakistan.
3. Mr. Waqar Ud Din Siddiqui Joint Secretary, Medium Enterprises Development (MED), Ministry of Production and Industries, Government of Pakistan.
4. Regional Sales Manager of Big Bird. K&Ns and Menu.