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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	PRICE EFFECT IN DHAKA STOCK EXCHANGE OF CROSS-LISTING IN CHITTAGONG STOCK EXCHANGE <i>MD. RAFIQUK MATIN & DR. JAWAD R ZAHID</i>	1
2.	STUDY OF SHOPPER'S ATTITUDE TOWARDS PRIVATE LABELS IN DUBAI <i>DR. TANMAY PANDA & K. TEJA PRIYANKA YADAV</i>	8
3.	FACTORS INFLUENCING INDIVIDUAL INTRANET USAGE: A LITERATURE REVIEW <i>MOHAMAD NOORMAN MASREK, DANG MERDUWATI HASHIM & MOHD SHARIF MOHD SAAD</i>	15
4.	THE BRANDING OF A COUNTRY AND THE NIGERIAN BRAND PROJECT <i>DR. ANTHONY .A. IJEWERE & E.C. GBANDI</i>	21
5.	THE RELATIONSHIP BETWEEN THE INTERNAL AUDIT FUNCTION AND CORPORATE GOVERNANCE: EVIDENCE FROM JORDAN <i>DR.YUSUF ALI KHALAF AL-HROOT</i>	27
6.	PROPOSED FRAMEWORK FOR IMPROVING THE PAYMENT SYSTEM IN GHANA USING MOBILE MONEY <i>MENSAH KWABENA PATRICK, DAVID SANKA LAAR & ALIRAH MICHAEL ADALIWEI</i>	33
7.	A COMPARATIVE STUDY ON PUBLIC SECTOR BANKS (VS) PRIVATE SECTOR BANKS (A CASE STUDY ON STATE BANK OF INDIA, CANARA BANK VS CITY BANK, ICICI BANK) <i>V. SRI HARI, DR. B. G SATYA PRASAD, VIKAS JAIN & DR. D. L. SREENIVAS.</i>	40
8.	DATA MINING APPLICATION IN TRANSPORT SECTOR WITH SPECIAL REFERENCE TO THE ROAD ACCIDENTS IN KERALA <i>DR. JOHN T. ABRAHAM & SWAPNA K. CHERIAN</i>	48
9.	RURAL MARKETS-A NEW FORCE FOR MODERN INDIA <i>RICHARD REMEDIOS</i>	51
10.	ASSESSMENT OF TRAINING NEEDS AND EVALUATION OF TRAINING EFFECTIVENESS IN EMPLOYEES OF SELECT ITes COMPANIES AT BANGALORE <i>DR. ANITHA H. S. & SOWMYA K. R.</i>	54
11.	JOB HOPPING AND EMPLOYEE TURNOVER IN THE TELECOM INDUSTRY IN THE STATE OF TAMIL NADU <i>L.R.K. KRISHNAN & DR. SETHURAMASUBBIAH</i>	59
12.	GROWTH AND RESPONSE OF AGRICULTURE TO TECHNOLOGY AND INVESTMENT IN INDIA (A STUDY OF POST GLOBALIZATION PERIOD) <i>SONALI JAIN, H.S. YADAV & TANIMA DUTTA</i>	80
13.	DAY OF THE WEEK EFFECT IN INTERNATIONAL MARKET: A CASE STUDY OF AMERICAN STOCK MARKET <i>DR. BAL KRISHAN & DR. REKHA GUPTA</i>	86
14.	STOCHASTIC BEHAVIOR OF A TWO UNIT SYSTEM WITH PARTIAL FAILURE AND FAULT DETECTION <i>VIKAS SHARMA, J P SINGH JOOREL, ANKUSH BHARTI & RAKESH CHIB</i>	90
15.	SURVEY OF NEWRENO AND SACK TCP TECHNIQUES PERFORMANCE IN PRESENCE OF ERRORS FOR HIGH SPEED NETWORK <i>MARGAM K.SUTHAR & ROHIT B. PATEL</i>	98
16.	A STUDY OF INDIAN BANKS WITH REFERENCE TO SERVICE QUALITY ATTRIBUTES AND CUSTOMER SATISFACTION <i>DR. ASHWIN G. MODI & KUNDAN M PATEL</i>	103
17.	PREDICTING CONSUMER BUYING BEHAVIOR USING A DATA MINING TECHNIQUE <i>ARATHI CHITLA</i>	108
18.	PERFORMANCE ANALYSIS OF VALUE STOCKS & EVIDENCE OF VALUE PREMIUM: A STUDY ON INDIAN EQUITY MARKET <i>RUBEENA BAJWA & DR. RAMESH CHANDER DALAL</i>	113
19.	STAR RATING FOR INDIAN BANKS WITH RESPECT TO CUSTOMER SERVICE <i>DR. M. S. JOHN XAVIER</i>	119
20.	ROUTING OF VLSI CIRCUITS USING ANT COLONY OPTIMISATION <i>A.R.RAMAKRISHNAN & V. RAJKUMAR</i>	123
21.	A STUDY ON INVESTORS' CONSCIOUSNESS AND INVESTMENT HABITS TOWARD MUTUAL FUNDS: - AN EXPLORATORY STUDY OF MEHSANA DISTRICT <i>ATUL PATEL, H. D. PAWAR & JAYSHRI DATTA</i>	127
22.	THE JIGSAW CAPTCHA <i>BALJIT SINGH SAINI</i>	134
23.	STUDY OF THE AWARENESS ABOUT THE SERVICES OFFERED BY THE DEPOSITORY PARTICIPANTS IN RAJASTHAN <i>DR. DHIRAJ JAIN & PREKSHA MEHTA</i>	137
24.	ATTACHMENT BETWEEN STOCK INDICES FII, NSE AND BSE <i>P. KRISHNAVENI</i>	142
25.	UTILIZATION OF E-BANKING SERVICES BY THE CUSTOMERS OF ICICI BANK LIMITED <i>M. S. ANANTHI & DR. L. P. RAMALINGAM</i>	146
26.	A SYSTEM FOR EMBEDDING FIVE TYPES OF EMOTIONS IN SPEECH: USING TIME DOMAIN PITCH SYNCHRONIZATION OVERLAP AND ADD (TPSOLA) <i>MAMTA SHARMA & MADHU BALA</i>	153
27.	PERFORMANCE OF INDIAN SCHEDULED COMMERCIAL BANKS IN PRE AND POST GLOBAL CRISIS <i>PRABINA KUMAR PADHI & MADHUSMITA MISHRA</i>	159
28.	FOOD PROCESSING INDUSTRY: INDIA NEED FOR DOMINATING GLOBAL MARKETS <i>ALI LAGZI & R.THIMMARAYAPPA</i>	162
29.	ROLE OF BALANCED SCORECARD AS A COMMUNICATION TOOL <i>ANSHU</i>	167
30.	PERFORMANCE APPRAISAL OF INDIAN BANKING SECTOR: A COMPARATIVE STUDY OF SELECTED PRIVATE AND FOREIGN BANKS <i>SAHILA CHAUDHRY</i>	171
	REQUEST FOR FEEDBACK	181

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FOOD PROCESSING INDUSTRY: INDIA NEED FOR DOMINATING GLOBAL MARKETS

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ABSTRACT

Exporting processing food products from India is an idea that was unbelievable few years ago. Importing food grains under PRE-WTO era was a hard reality for this country which is now getting ready for processing food products export in a modest way. In Indian, the food processing industry is one of the largest in terms of production, consumption, export and growth prospects. India is an agrarian country and no policy maker can afford to ignore the vital importance of agriculture sector in the overall national economy. However, on account of poor warehousing and storage infrastructure, a sizeable proportion of food materials which is estimated at around 10 percent go waste. There is a lack of suitable infrastructure in the shape of cold chain, packaging centres, value added centre, modernized abattoirs, etc. With the advent of the WTO regime and the possibility of lowering of subsidies in the developed countries, India's competitive advantages in food production and processing industry shall come to the fore. Due to a variety of factors though world trade has moved more and more towards processed commodities, export of agricultural commodities performed unevenly with regard to such value added products. In order to address the problem, this paper focuses on schemes of government in food processing sector for implementation of infrastructure development.

KEYWORDS

Food Processing Industry, Global trade, infrastructure development.

INTRODUCTION

Food processing is the process of adding value to the agricultural or horticultural produce by using various techniques like grading, sorting, packaging, etc. which enhances the shelf life of food products. A strong and dynamic food processing sector plays a significant role in the overall economic set up of a country. It provides vital linkages and synergies between industry and agriculture. It has been identified as a sector having immediate potential for growth and employment. It leads to diversification of agricultural activities, improves value addition opportunities and creates surplus for export of agro-food products. The industry has very low processing level i.e. 2.2% for fruits and vegetables, around 35% in milk, 21% in meat and 6% in poultry products, which is significantly lower by international standards. For e.g. processing of agriculture produce is around 40% in China, 30% in Thailand, 70% in Brazil, 78% in the Philippines and 80% in Malaysia. Value addition to agriculture produce in India is just 20% with wastage estimated to be valued at around US \$13 billion. (Ministry of Food Processing Annual report 2005-06).

At present, just 6% of the food-items produced in the India are processed in contrast to the developed nations where 60% to 80% of the food items are processed. While the sector grew at an impressive 14.7% in 2008-09 despite the global slowdown, the country's highest authority, the Prime Minister, expects the National Food Processing Policy to the necessary boost to the sector.

FOOD PROCESSING INDUSTRY IN INDIA

The Food Processing Industry in India is one of the largest in terms of production, consumption, export and growth prospects. Important sub-sectors in food processing industries are: Fruit and Vegetable Processing, Fish Processing, Milk Processing, Meat and Poultry Processing, Packaged/Convenience Foods, Alcoholic Beverages and Soft drinks and Grain Processing, etc. agro-processing industries have a potentially important role in the economic development of developing countries-directly as a source of income and employment and indirectly for their backward linkages with agriculture. The latter is especially critical for the commercialization of agriculture in developing countries, which is widely recognized as important for adoption of modern farming technologies, improving agricultural productivity and incomes, and eventually for rural poverty reduction. Banupratap Singh (1992) opines on the agriculture needs, that "India has three distinct advantages over other farm exporters". Firstly, the availability of a variety of agricultural and allied products. Secondly, proximity of importing countries providing freight advantages. Thirdly low domestic farm prices. Author further suggest that, there is a need for recognizing agriculture as major economic and commercial activity at par with industry and providing it with all the essential facilities, support and incentives, to ensure faster agricultural growth, and stimulate overall growth of national economy and to overcome balance of payment and foreign exchange crisis by augmenting and promoting of export potential of agriculture products.

Food processing involves any type of value addition to the agricultural produce starting, the post harvest level. The processed food industry provides safe convenience foods to consumers, and promotes diversification and commercialization of agriculture by providing effective linkages between the farmer and consumers in both domestic as well as international markets.

The extent of processing can be categorized as follows:

- Primary Processing: cleaning, grading, powdering and refining of agricultural produce, e.g., grinding wheat into flour.
- Secondary Processing: basic value addition, e.g., tomato-puree, ground coffee, cleaning and processing of meat products.
- Tertiary Processing: high value addition products like jams, sauces, biscuits and other bakery products that is ready for consumption at the point of sale.

The industry has a wide scope covering activities such as agriculture, horticulture, plantation, animal husbandry and fisheries. It also includes other industries that use agriculture inputs for manufacturing of edible products.

The Ministry of Food Processing, Government of India (GOI), classifies the following under processed food industry:

- Dairy, fruits and vegetables
- Grains
- Meat and poultry
- Fisheries
- Consumer foods including packaged foods, beverages and packaged drinking water

Sada Shankar Sexana et.al. (1987) highlight the strengths and weaknesses of fresh fruits and vegetables. According to them the strengths are particularly India's geographical location with good logistic and suitable climate placed India in a favorable position for growing a variety of fruits and vegetables round the year, which are otherwise not possible during certain particular season in temperature zones.

The author highlighted some vegetables and fruits like tomato, orange and pineapple that are available in plenty in India during winter season, when the same are in short supply in USA, Russia and many European countries. In the mean time the authors identified some areas of weaknesses, absence of production base for exports at farm level, quick and safe transportation of fresh fruits and vegetables meant for exports, poor storage facilities comparatively higher freight rates and nonexistence of strong data base and production has affected international demand pattern at prevailing price.

To overcome these weaknesses, the author suggested that it is very essential to pursue a policy of exports on regular basis in view of highly competitive nature of international markets, which calls for nurturing and measures to be taken up for export oriented products development.

GLOBAL PROCESSED FOOD INDUSTRY

Global market for the processed foods follows the economic power of the countries. Developed economies show more inclination towards processed foods due to higher income levels. Rapid urbanization and rising income levels in the developing economies create the demand for processing foods. Low income levels and poor economic growth of the least developed countries create the demand for basic staples and carbohydrates. As per the research study in IIFT (2002) "competition in global market is a multi-dimensional concept, it involves not only price competition but also ability to deliver the contractual quality consistently at the appropriate time and place". The study further pointed out Indian infrastructural inadequacies which include pre and post harvest practices often limit the ability of Indian exporters to satisfy the needs of foreign buyers. The study stresses the need for radical transformation of agro-industry and export of agricultural products in order to convert customers satisfaction into consumers delight.

Shinoj and Mathur (2008) studied the changes in comparative advantage status of India's major agricultural exports vis-a-vis other Asian players during the post-reforms period (1991-2004). The finding showed that, the exports of certain commodities like cashew ,oil, meat products, has been able to maintain its comparative advantage, but several others products like tea, coffee, spices, marine products, etc have been negatively affected. The authors concluded that India has been found losing out its comparative advantage in export of some of the agricultural commodities to other Asian competitors during the period after economic reforms.

The market can be classified in to four major segments depending on the level of processing and the maturity of the market:

- Countries like USA, Japan and Australia demand highly organic and functional foods whose preparation involves high technology
- Quality and hygiene factors are the drivers in the Eastern European countries
- Developing countries like India, China and Latin America focus primarily on snacks, prepared meals and processed meat.
- Carbohydrates still constitute the major food in the least developed markets. Most of the least developed countries are net importers of food

The size of global processed food industry is estimated to be valued around US \$3.6 trillion and accounts for three-fourth of the global food sales. Despite its large size, only 6% of processed foods are traded across borders compared to 16% of major bulk agricultural commodities. Over 60% of total retail processed food sales in the world are accounted by the U.S, EU and Japan taken together. India's share in global production of processed fruits and vegetables product is far higher than it share in global exports. Although part of the reason is India's large domestic market, more importantly, the processed fruits and vegetables sector has not leveraged on the export market as a proactive source of revenue, the main reason is a lack of suitable infrastructure in the shape of cold chain, packaging centers, value added centre, etc...and government should attach highest priority to development and expansion of physical infrastructure for facilitating prompt growth of industries.

Japan is the largest food processing market in the Asian region, though India and China are catching up fast and are likely to grow more rapidly. Leading meat-importing countries namely Japan and South Korea have a developed processed food industry. One of the most technically advanced food-processing industries globally is Australia as the products produced are of international standards and at comparatively lower prices. Countries in the Sub-Sahara African region, Latin America and parts of Asia continue to be on the lower-end of technology competence in food items. However, Europe, North America, and Japan are on the higher-end of technology, with a sharper shift towards convenience and diet foods.

EVOLUTION OF GLOBAL FOOD



Source: rabobank international

ABUNDANT AVAILABILITY OF RAW MATERIAL

India has varied agro climatic conditions; it has a wide-ranging and large raw material base suitable for food-processing industries. Subba Reddy (2000) and others opined that marketable surplus is initiation certain factors such as size of land holding (larger the size of holding greater is the quantum of marketable surplus). Level of production (higher levels of production help to generate larger marketable surplus). Higher productivity results in higher production. Productivity is influenced by the efficient use of various resources employed on the farm. It has a vast coastline of 8000 km, vast marine land with 10 major ports. India produces annually 90 million tones of milk (highest in the world), 150 million tones of fruits and vegetables (second largest), 485 million livestock (largest), 204 million tones food grain (third largest), 6.3 million tones fish (third largest), 489 million poultry and 45,200 million eggs. India's agricultural production base is huge.

TABLE (1) INDIA –COMPETITIVE EDGE

	India	share in global production (%)	global rank
Arable Land (million hectare)	161		2
Irrigated Land (million hectare)	55		1
Coast line (km)	8,000		19
Major Food Crops (MT)	35	4	3
Fruits (MT)	50	10	2
Vegetables (MT)	100	10	2
Rice/Paddy (MT)	92	22	2
Wheat (MT)	72	15	1
Milk (MT)	90	17	1
Sugarcane (MT)	296	21	2
Pulses (MT)	31	4	3
Tea (MT)	-	28	2
Edible Oil seed (MT)	25	7	3
Cattle (million)	485	16	1

Source: FICCI, Ministry of Agriculture. 2005

Low cost production base for domestic and export market can be set up considering India's comparatively cheap labour force and lower cost of production. India has access to significant investments to facilitate food-processing industry.

MAJOR CHALLENGES FOR THE INDIAN FOOD INDUSTRY

Food-processing industry is facing constraints like non-availability of adequate infrastructural facilities, lack of adequate quality control & testing infrastructure, inefficient supply chain, seasonality of raw material, high inventory carrying cost, high taxation, high packaging cost, affordability and cultural preference of fresh food. Unprocessed foods are prone to spoilage by biochemical processes, microbial attack and infestation. Good processing techniques, packaging, transportation and storage can play an important role in reducing spoilage and extending shelf life. The challenge is to retain the nutritional value, aroma, flavour and texture of foods, and presenting them in near natural form with added conveniences. Processed foods need to be offered to the consumer in hygienic and attractive packaging, and at low incremental costs.

Major Challenges for the Indian Food Processing Industry are:

- Consumer education on nutritional facts of processed foods
- Low price-elasticity for processed food products
- Need for distribution network and cold chain
- Backward-forward integration from farm to consumers
- Development of marketing channels
- Development of linkages between industry, government and institutions
- Taxation in line with other nations
- Streamlining of food laws

India as a signatory to the WTO has to open up its economy to imports of agricultural products from all over the world within a few years time. However, whether India will be able to exploit this advantage will depend upon a large number of factors. In case of processed fruits and vegetables, the quantity of exports has increased from 37820 million tonne in 1995-96 to 340071 million tonne in 2010-11. to know the impact of WTO on fruits and vegetables processing, annual compound growth rates were calculated and presented in Table(2).

From the table, it can be concluded that the growth rate of quantity of fruits and vegetables processing industries in India was high during the pre-WTO period (16.65 per cent) compared to post-WTO period(4.39 per cent).similarly ,the growth rate of value of processed fruits and vegetables was also high during pre-WTO period (28.76 per cent)than the post-WTO period(14.10 per cent).thus, it may be inferred that WTO has shown negative impact on quantity and value of fruits and vegetables processing industries in India.

TABLE 2: ANNUAL COMPOUND GROWTH RATES (CGR) OF THE FRUITS AND VEGETABLE PROCESSING INDUSTRIES

Year	Quantity (Million tonne)	Value (lakh)	Growth in value over Previous year
1990-91	12349	2008	-
1991-92	15279	2960	47.41
1992-93	16625	3847	29.96
1993-94	27685	6728	74.88
1994-95	26680	7122	5.85
Annual CGR during Pre-WTO period	16.65	28.76	
Year	Quantity (Million tonne)	Value (lakh)	Growth in value over Previous year
2005-06	272524	74088	-
2006-07	318068	95554	28.97
2007-08	311755	96285	0.76
2008-09	387122	137180	42.47
2009-10	397976	143350	4.49
Annual CGR during	4.39	14.10	

Source: APEDA – 2011

POST-WTO PERIOD

The exports of processed agro-products from India during 2008-09 to 2010-11 are presented in Table (3).

It was found that the value of exports of dried and preserved vegetables declined from Rs.53207.48 lakh in 2009-10 to Rs.51697.09 lakh in 2010-11 and also the value of exports in other processed fruit and vegetables from Rs.143550.63 lakh in 2009-10 reduced to Rs.131635.53 lakh in 2010-11. Similarly, the export value of sheep/goat meat also declined from Rs.74720.07 lakh in 2009-10 to Rs.25318.88 lakh in 2010-11. In case of poultry products, it was observed that the value of exports drastically reduced from Rs.37211.85 lakh in 2009-10 to 30132.74 lakh in 2010-11.

TABLE 3: EXPORTS OF PROCESSED AGRO-PRODUCTS FROM INDIA DURING 2008-09 TO 2010-11**PROCESSED FRUITS AND VEGETABLES**

DRIED AND PRESERVED VEGETABLES	147861.22	49641.51	124613.50	53207.48	110173.91	51697.09
MANGO PULP	173013.60	75298.90	186197.85	74460.77	171929.43	81400.66
OTHER PROCESSED FRUITS AND VEGETABLES	387126.42	137179.00	397978.17	143550.63	340067.97	131635.53
PULSES	136880.08	54232.50	100130.94	40832.47	205820.98	85310.73
Total	844881.32	316351.91	808920.46	312051.35	827992.29	350044.01

ANIMAL PRODUCTS

BUFFALO MEAT	462749.62	483970.99	495019.71	548060.08	709437.49	841268.59
SHEEP / GOAT MEAT	37790.65	49336.94	52868.01	74720.07	11908.38	25318.88
POULTRY PRODUCTS	1057016.46	42205.80	1016783.10	37211.85	619150.80	30132.74
DAIRY PRODUCTS	70146.77	98086.06	34379.97	40268.39	36867.37	53389.35
ANIMAL CASINGS	1823.72	884.32	2020.56	3152.74	1809.42	3514.91
PROCESSED MEAT	857.63	1014.40	716.19	958.51	1366.16	2104.88
NATURAL HONEY	15587.53	14896.37	13310.77	14665.42	31675.57	24958.04
SWINE MEAT	817.82	917.23	1117.96	1034.90	1115.35	1050.94
Total	1646790.2	691312.11	1616216.27	720071.96	1413330.54	981738.33

OTHER PROCESSED FOODS

GROUND NUTS	297890.37	123900.93	340246.31	142593.30	417150.04	209406.40
GUARGUM	258567.56	133898.53	218479.74	113330.55	403675.01	281194.65
JAGGERY AND CONFECTIONERY	1467904.90	200482.09	53639.76	23320.18	1068376.45	349570.07
COCOA PRODUCTS	6831.90	8403.91	5863.88	9699.45	6962.54	13151.92
CEREAL PREPARATIONS	206928.49	110092.50	168795.50	101353.72	215727.31	122681.79
ALCOHOLIC BEVERAGES	56152.90	54254.20	70504.99	58952.65	132113.31	79019.63
MISCELLANEOUS PREPARATIONS	139637.31	59172.63	158803.46	69427.79	182184.21	87426.47
Total	2433913.43	690204.79	1016333.64	518677.64	2426188.87	1142450.93

[Source: APEDA – 2011]

CONCLUSION

India is the world's largest producer of milk, the second largest producer of fruits and vegetables, a major producer of spices, tea and coffee and large livestock population and vast marine wealth. There is not only a potential vast domestic market for it but also huge foreign market. The industry can become a top foreign exchange earner provided appropriate policies capture foreign market.

There is a lack of suitable infrastructure in the shape of cold chain, packaging centres, value added centre, modernized abattoirs, etc. Jaydeep and Tanya Sinh (2010) suggested that, to achieve India's percentage share of global merchandise trade within the next five years, the new trade policy (2009-14) should propose measures for improvement in infrastructure related to export, bringing down transaction costs, and providing full refund of all indirect taxes and levies.

Government should attach highest priority to development and expansion of physical infrastructure for facilitating prompt growth of industries. In order to address the problem of infrastructure in food processing sector, the government should implement the scheme for infrastructure development.

There will better forward as well as backward linkages between farmers, processors and retailers and will link agricultural production to the market so as to ensure compressed supply chain, maximization of value addition, minimize wastages and improved farmers' income.

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