

**Project Report**  
**On**  
**Crop Input and Tobacco Growing**

**A Case of British American Tobacco Bangladesh (BATB)  
Company Limited**

**Submitted to**

**Jashim Uddin**

**Senior Lecturer**

Department of Business Administration

East West University

**Submitted by**

**Shoeb Ahmed Chowdhury**

**ID # 2004-2-10-061**

**Course # BUS 499**

**Date of Submission: April 16, 2008**

Report - 273

## Letter of Transmittal

April 16, 2008

Course Instructor

BUS 499

East West University

43, Mohakhali C/A, Dhaka – 1212

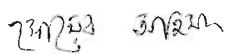
Dear Sir:

It is to inform you that I am doing my internship under your supervision. For this purpose, I have worked as an intern in British American Tobacco Bangladesh (BATB). Here is the project report on 'Crop Input and Tobacco Growing: A Case of British American Tobacco Bangladesh (BATB) Company Limited' that BATB selected for me to prepare. I have collected the required data from Bangladesh Chemical Industries Corporation (BCIC) and its website. I have also collected information from the tobacco farmers, employees of BATB and its website. I have tried to analyze the present situation of chemical fertilizers in Bangladesh and also tried to analyze how BATB manages its distribution of chemical fertilizers to its registered farmers and its impact on tobacco growing. I am presenting this report to you for your consideration.

I have tried my best to make this report as accurate as possible. I hope you will consider it.

Thanking you.

Sincerely yours,



(Shoeb Ahmed Chowdhury)

ID # 2004-2-10-061

East West University

## Table of Contents

	<b>Page No</b>
<b>1. Executive Summary</b>	<b>01</b>
<b>2. Objective, Methodology &amp; Limitation</b>	<b>02</b>
<b>3. Current Picture of Chemical Fertilizers in Bangladesh</b>	<b>03</b>
• Fertilizer Factories in Bangladesh	03
• Production Performance of Different Fertilizer Factories	05
• Sales Performance of Different Fertilizer Factories	05
• Urea Stock, Production, Import, Demand and Sales Position	06
• Graphical Presentation of Different Fertilizer Factories	07
• Demand and Import of Chemical Fertilizer	12
• Import Process of Chemical Fertilizer	12
• Smuggling of Fertilizer	13
• Distribution Process of Chemical Fertilizers and Buffer Stock	13
<b>4. Company Overview</b>	<b>14</b>
• BAT – The World’s Most International Tobacco Group	14
• History	14
• Slogan	15
• Business of BATB	15
• Brands of BATB	16
• Guiding principles of BATB	17
• Hierarchy of Executive Committee	18
• Vision and Strategy of BATB	18
• Business Principles of BATB	22
• Internal Control of BATB	22
• Corporate Social Responsibility of BATB	24
• Leaf Department	25
• Leaf Mission	26
• Leaf Strategic Direction	26
• Leaf Objectives	26

	Page No
<b>5. Crop Input (Chemical Fertilizer) &amp; Tobacco Growing</b>	<b>27</b>
• Fertilizer	27
• Need for Using Fertilizers	27
• Advance Crop Input Policy of BATB	28
• Agrochemical Policy of BATB	28
• Objective (Agrochemicals)	29
• Agrochemical Management Program	29
• Role of Primary Nutrients (NPK) in Plant Growth	30
• Fertilizer Recommended by BATB	31
• Method of Application	31
• Time of Application	32
• Commonly Used Chemical Fertilizers' Nutrient Compositions	32
• The Survey	32
• Survey Questionnaire	33
• The Result	34
• Comparative Picture between Registered & Unregistered Farmers	45
<b>6. Recommendation</b>	<b>48</b>
• For Government	48
• For BATB	49
<b>7. Bibliography</b>	<b>51</b>
<b>8. Appendix</b>	<b>52</b>

## **Executive Summary**

Tobacco is one of the major cash crops of Bangladesh. At present tobacco is being exported to many countries around the world and the Government is earning huge amount of foreign exchange. So, it has a large impact on our economy. More than 0.2 million farmers directly earn their livelihood through the cultivation of tobacco and another 2 million are associated with the supply chain process. Kushtia region is one of the best belts for tobacco cultivation. Chemical fertilizers play a major role for any type of crop cultivation and for tobacco, its necessity is spellbound. So, it is very much necessary to ensure proper supply of chemical fertilizers to sustain the cultivation of tobacco in Bangladesh. Many tobacco companies are working for tobacco crop extension in the country. Among them British American Tobacco Bangladesh (BATB) is the largest and leading company.

British American Tobacco Bangladesh Company Limited is a public limited company incorporated in Bangladesh and its shares are quoted in the Dhaka and Chittagong Stock Exchanges. It holds the top position in the tobacco industry of Bangladesh. It manufactures and markets major international cigarette brands like Benson & Hedges, Pall Mall, John Player Gold Leaf and Viceroy which are complemented by local brands such as Capstan, Star and Scissors. The company also markets imported cigar brand called 'Dunhill' and exports processed leaf to various countries around the world.

In this report, at first I have tried to find out the present situation of chemical fertilizers in Bangladesh. For this purpose, some detailed information have been collected from Bangladesh Chemical Industries Corporation (BCIC) about the production, import, sales and distribution of various types of chemical fertilizers. Then I have tried to analyze BATB's distribution process of chemical fertilizers to its registered farmers and its impact on tobacco growing. To do this, a survey was conducted on fifty tobacco farmers (25 registered and 25 unregistered). Unregistered farmers were surveyed for the comparison purpose.

Some data also have been collected from various magazines and the website of BATB. After conducting the survey, I have summarized the result and tried to make a comparison between registered and unregistered farmers. At last, some recommendations are given for both the Government of Bangladesh and British American Tobacco Bangladesh.

### **Objective:**

In this project report, my first objective is to find out the present situation of chemical fertilizers in Bangladesh. Then my second objective is to analyze British American Tobacco Bangladesh (BATB)'s distribution process of chemical fertilizers to its registered farmers and its impact on tobacco growing.

### **Methodology:**

For my analysis, I have collected information from Bangladesh Chemical Industries Corporation (BCIC) and also conducted a survey on 50 tobacco farmers (both registered and unregistered) from Chechua Leaf Region. So, I have used two types of data for my analysis:

- Primary data
- Secondary data

To collect primary data I have used the survey and I have attached the questionnaire in the Appendix section of this report. I have collected secondary data from websites and various published reports of both BCIC and BATB.

### **Limitation:**

In this report, I have used both primary and secondary data and some of the cases I did not get sufficient data from farmers because most of them are illiterate and they do not keep record of their application of chemical fertilizers in the land.

## Current Picture of Chemical Fertilizers in Bangladesh

**Fertilizer:** It may be defined as any substance (chemical, organic and microbial) that is added to the soil to supply essential plant nutrients. In a specific sense, fertilizers are chemicals that occur naturally or are produced in the factory and when added to the soil, supply nutrient elements required for better plant growth. The following are examples of different kinds of fertilizers:

- Chemical fertilizers: Urea, DAP, TSP, SSP, SOP, MOP etc.
- Organic fertilizers: Cow-dung, Farmyard manure, Compost, Green manure etc.
- Bio-fertilizers: Rhizobium bio-fertilizer, Azospirillum bio-fertilizer, Blue-Green algae etc.

**Fertilizer Factories in Bangladesh:** At present, there are eight fertilizer factories in Bangladesh under the supervision of Bangladesh Chemical Industries Corporation (BCIC) and are controlled by the Government's Ministry of Industry. Among these eight fertilizer factories, Diammonium Phosphate (DAP) Fertilizer Company Limited is now under construction which is located near Chittagong Urea Fertilizer Limited (CUFL). The rest seven fertilizer factories are:

- **Chittagong Urea Fertilizer Limited (CUFL):** It is situated in Rangadia, Anwara, Chittagong. This fertilizer factory of the country has an annual production capacity of 561000 MT of urea. It went on stream in October, 1987.
- **Jamuna Fertilizer Company Limited (JFCL):** It is situated in Tarakandi, Sorishabari, Jamalpur. This factory has an annual production capacity of 561000 MT of urea. With the commissioning of the 6<sup>th</sup> urea fertilizer plant Jamuna Fertilizer Company Limited (JFCL), Bangladesh has not only attained self-sufficiency in meeting a vital agricultural input, but also attained the capability of producing high quality granular urea.
- **Zia Fertilizer Company Limited (ZFCL):** It is situated in Ashuganj, Brahmanbaria. The construction of a fertilizer plant at Ashuganj was first examined in 1969-71 and following a feasibility study the project was approved in 1975. The main contractor was Foster Wheeler Limited (UK) and the initial completion date was fixed in December, 1978. However due to number of technical problems, commission was completed on December 15, 1981. The

### Production Performance of Different Fertilizer Factories from 2003-2004 to 2007-2008 (July-Dec'07)

Fertilizer factory	Product	Unit	Installed capacity	2003-2004			2004-2005			2005-2006			2006-2007			2007-2008 (July-Dec'07)		
				Target	Production	Achieved (%)	Target	Production	Achieved (%)	Target	Production	Achieved (%)	Target	Production	Achieved (%)	Target	Production	Achieved (%)
CUFL	Urea	MT	561000	540000	544451	101	490000	446255	91	420000	435440	104	440000	414290	94	144458	140033	97
JFCL	Urea	MT	561000	520000	536223	103	500000	500226	100	470000	479087	102	484000	524770	108	234490	237091	101
ZFCL	Urea	MT	528000	400000	408002	102	450000	397800	88	380000	368600	97	380000	369100	97	198890	202668	102
UFFL	Urea	MT	470000	320000	328635	103	365000	350233	96	285000	271002	95	370000	332801	90	21000	21878	104
NGFFL	Urea	MT	106000	80000	83512	104	85000	89415	105	80000	80130	100	76000	76141	100	29640	29160	98
	ASP	MT	12000	8000	5827	73	8000	7680	96	6300	4789	76	5000	5017	100	2871	2896	101
PUFFL	Urea	MT	95000	85000	85376	100	85000	94371	111	85000	96085	113	90000	100090	111	44520	48854	110
TSPCL	TSP	MT	100000	65000	66002	102	50000	53848	108	55000	56392	103	50000	50430	101	26188	26302	100
	SSP	MT	120000	125000	141003	113	140000	162531	116	135000	135147	100	125000	117641	94	32396	32396	100

### Sales Performance of Different Fertilizer Factories from 2003-2004 to 2007-2008 (July-Dec'07)

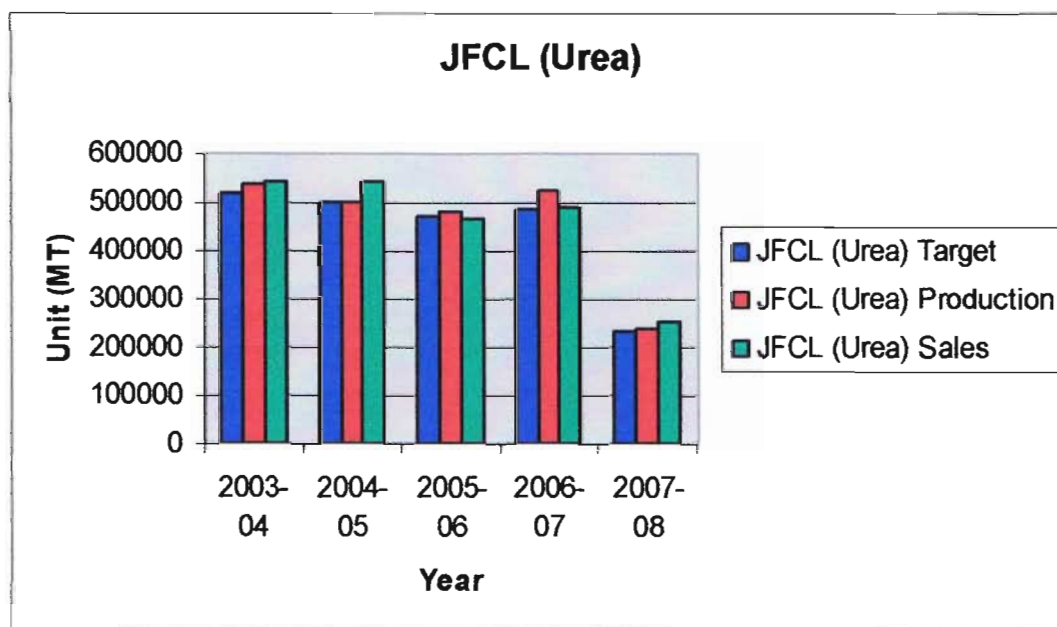
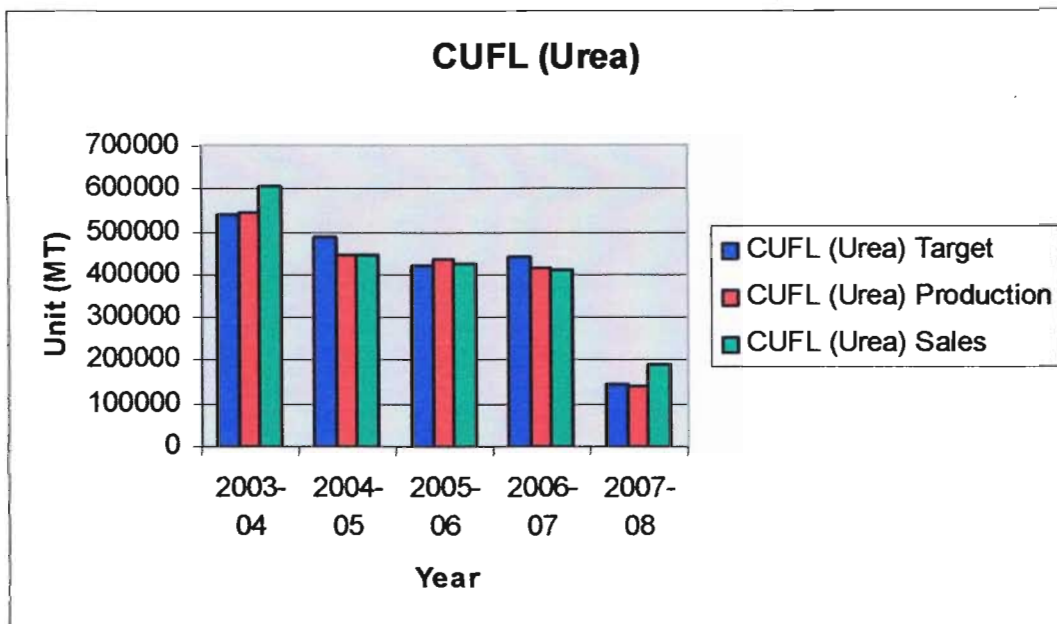
Fertilizer factory	Product	Unit	Installed capacity	2003-2004			2004-2005			2005-2006			2006-2007			2007-2008 (July-Dec'07)		
				Target	Sales	Achieved (%)	Target	Sales	Achieved (%)	Target	Sales	Achieved (%)	Target	Sales	Achieved (%)	Target	Sales	Achieved (%)
CUFL	Urea	MT	561000	540000	605546	112	490000	447165	91	420000	427440	102	440000	409194	93	144458	190554	132
JFCL	Urea	MT	561000	520000	542778	104	500000	540799	108	470000	464454	99	484000	488846	101	234490	250106	107
ZFCL	Urea	MT	528000	400000	414382	104	450000	432502	96	380000	370800	98	380000	354001	93	198890	192268	97
UFFL	Urea	MT	470000	320000	325701	102	365000	369120	101	285000	285614	100	370000	331740	90	21000	87572	417
NGFFL	Urea	MT	106000	80000	95834	120	85000	94338	111	80000	77487	97	76000	73777	97	29640	37052	125
	ASP	MT	12000	8000	6565	82	8000	5632	70	6300	6741	107	5000	4865	97	2871	2835	99
PUFFL	Urea	MT	95000	85000	91400	108	85000	101189	119	85000	96853	114	90000	94682	105	44520	52043	117
TSPCL	TSP	MT	100000	65000	66535	102	50000	59315	119	55000	59660	108	50000	50193	100	26188	21408	82
	SSP	MT	120000	125000	147682	118	140000	170931	122	135000	130393	97	125000	125404	100	32396	33201	102

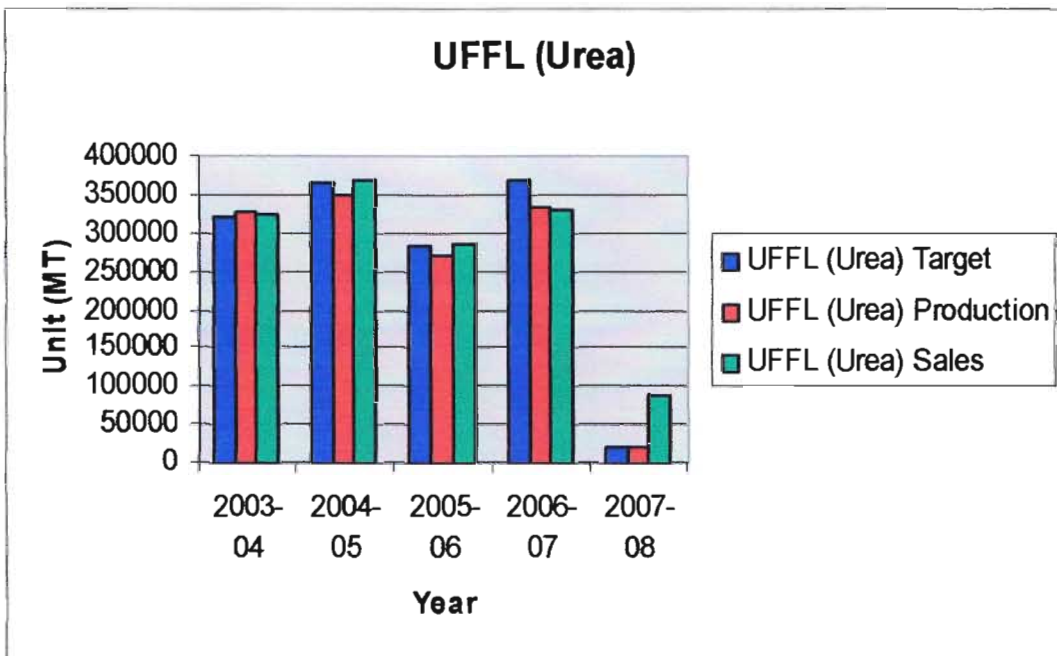
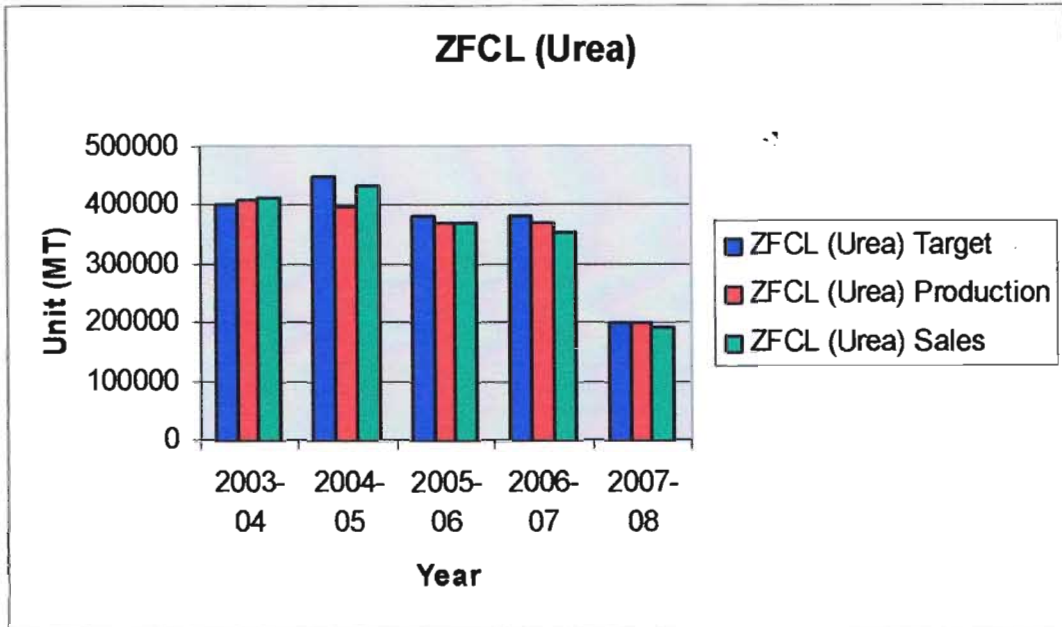


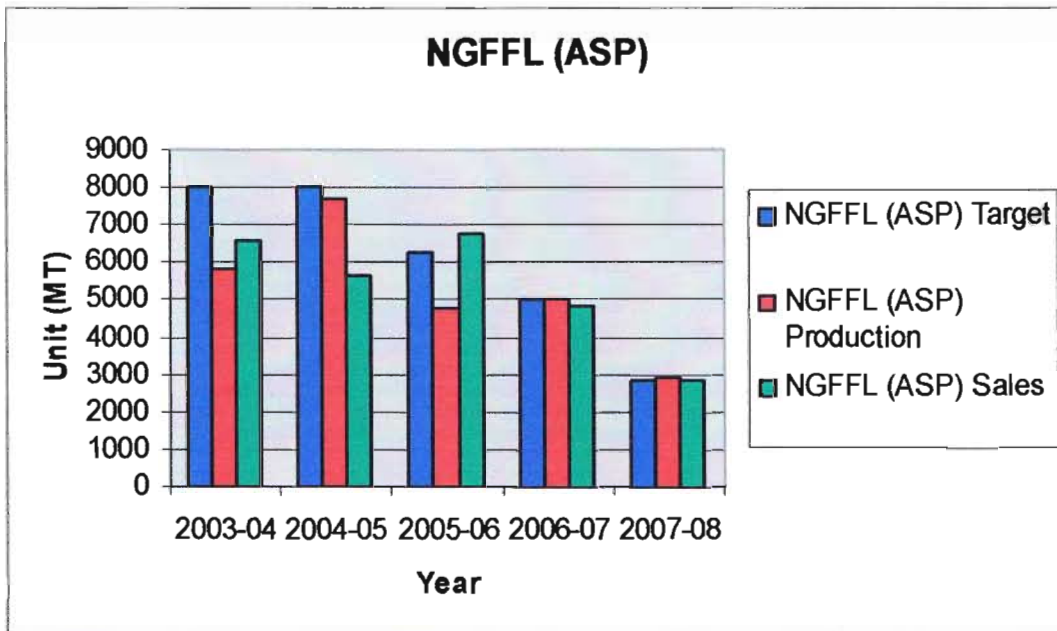
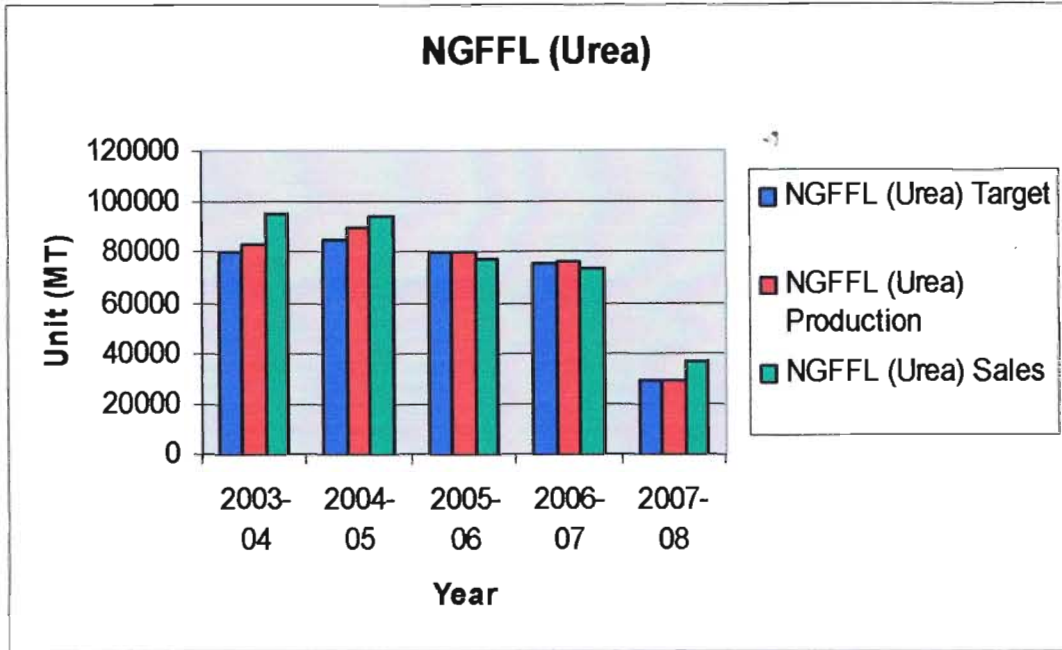
**Yearwise Urea Stock, Production, Import, Demand and Sales Position During 2002-03 to 2007-08**

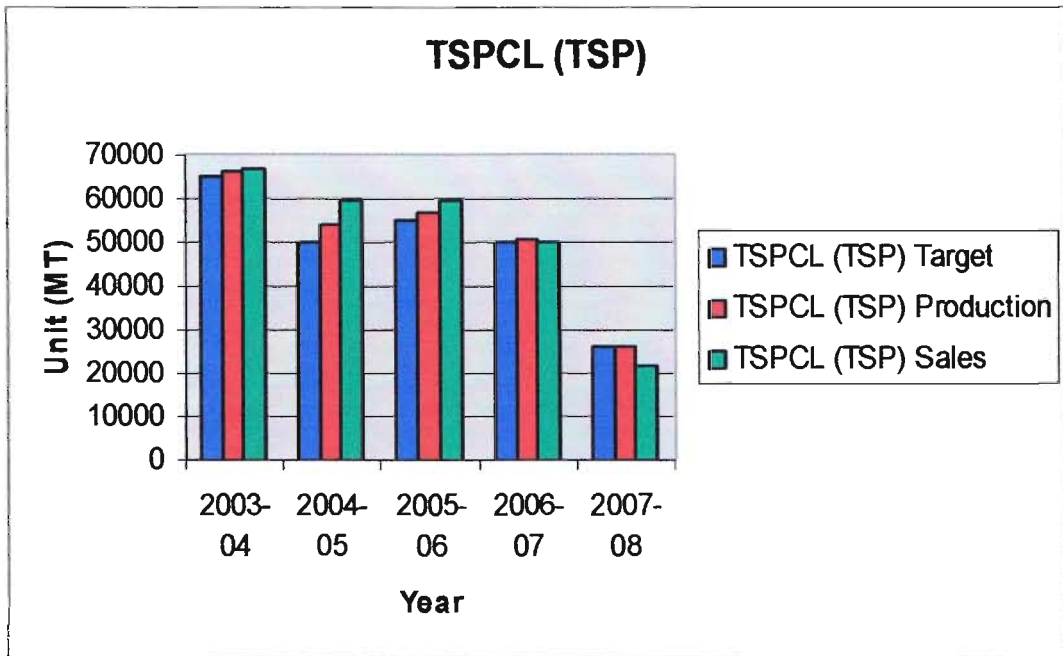
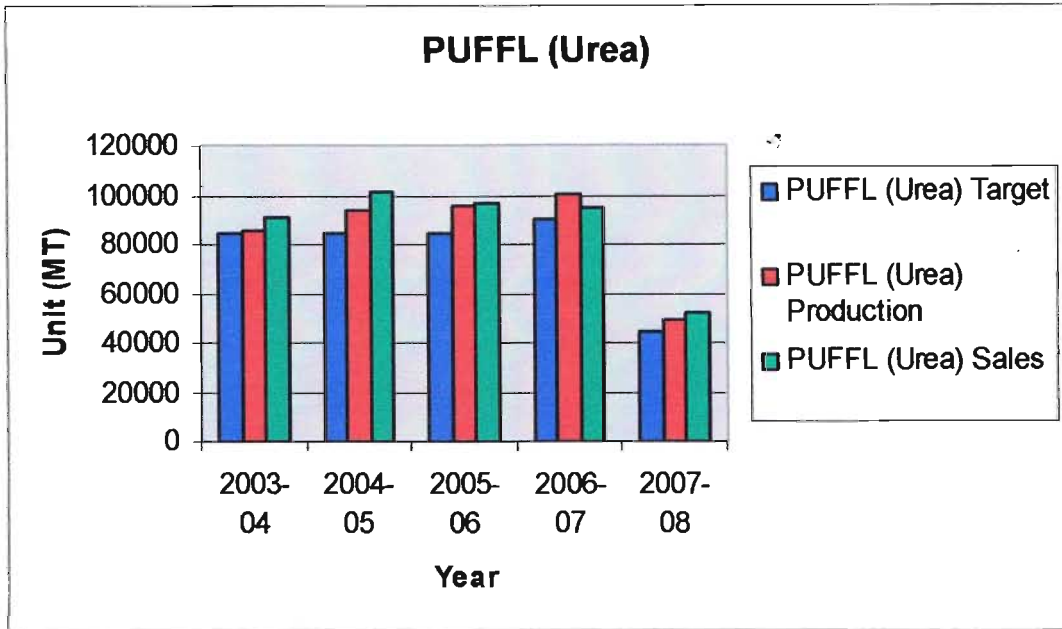
Year	Unit	Opening Stock	Production	Import			Demand (Local)	Actual Sale (Local)	Less Sale	% of sale against demand
				KAFCO	Overseas	Total Import				
2002-03	MT	357371	2056724	262500	23174	285674	2354434	2239236	115198	95
2003-04	MT	460537	1986199	235000	0	235000	2415495	2324076	91419	96
2004-05	MT	357215	1878300	315000	252332	567332	2600000	2523113	76887	97
2005-06	MT	262263	1730261	313200	323279	636479	2800000	2451375	348625	88
2006-07	MT	312435	1817198	350000	463652	813652	2875000	2527795	347205	88
2007-08	MT	415826	1500000	450000	900000	1350000	2818000			

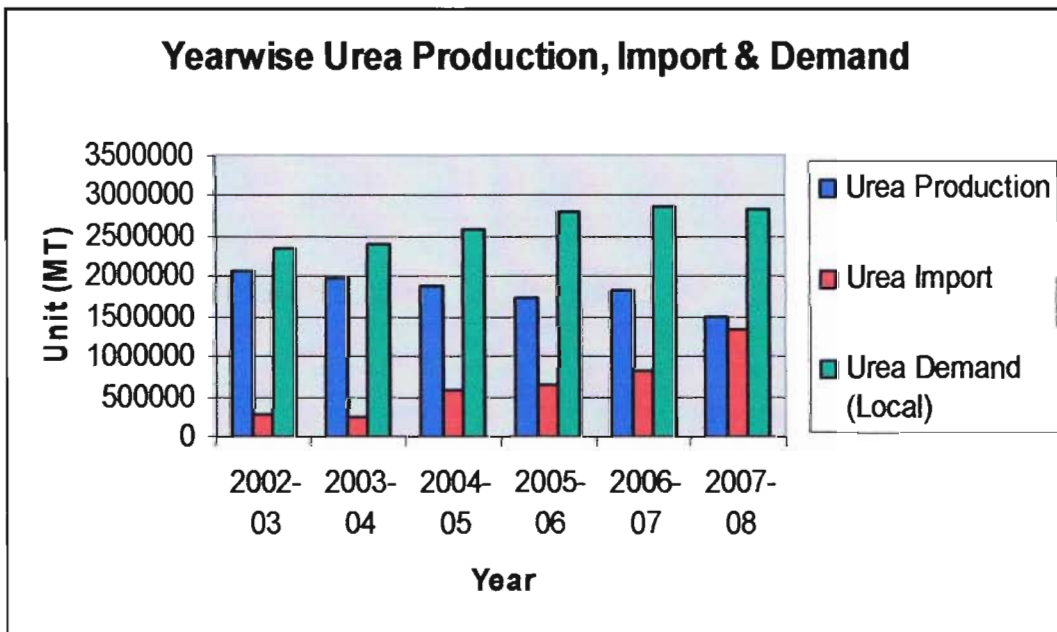
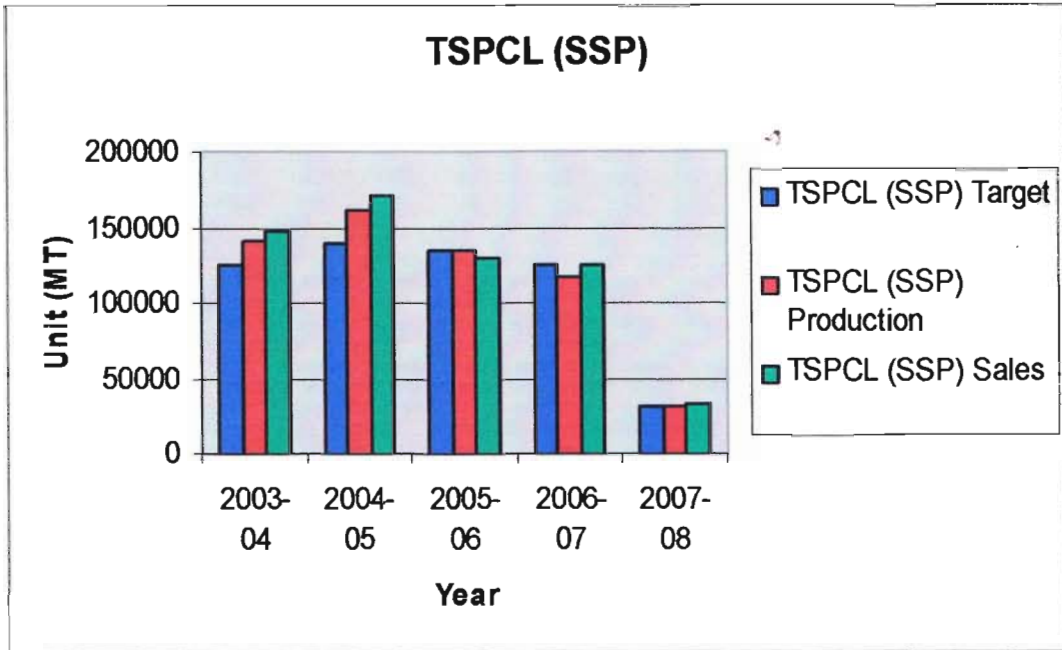
**Graphical Presentation of Target, Production and Sales of Fertilizers of Different Fertilizer Factories:**











### **Demand and Import of Chemical Fertilizer:**

Our country's largest demand is for urea fertilizer. It is mainly used in cultivating IRRI and Boro paddy.

<b>Seasonal Demand of Urea Fertilizer</b>	
<b>Month</b>	<b>Quantity (MT)</b>
July – September	476000
October – December	574830
January – March	1195000
April – June	270370

<b>Demand, Production &amp; Import of Chemical Fertilizers</b>				
<b>Name</b>	<b>Demand (Per annum)</b>	<b>Production</b>	<b>Import</b>	<b>Remark</b>
<b>Urea</b>	2800000*	1800000	1000000	Imported by BCIC through inviting tender internationally
<b>TSP</b>	475000	50000	425000	Imported by Ministry of Agriculture
<b>DAP</b>	250000	150000	100000	Imported through private sector
<b>MOP</b>	400000	--	400000	
<b>SSP</b>	128000	--	128000	
<b>Zinc</b>	45000	--	45000	
<b>Gypsum</b>	160000	--	160000	

\* The figure is for the fiscal year 2007-2008.

### **Import Process of Chemical Fertilizer:**

Chemical fertilizers are imported through both the Government and the private sector. But in case of each fertilizer, the demand is decided in the Government sector through the office of the District Commissioner (DC) in each district. Import of urea and TSP fertilizer is done by the Government only and in here the importer is BCIC and BADC. In our country there is an organization of private importer of fertilizers named '**Bangladesh Fertilizer Association**'. Its address is: Room no – 08, City Heart (10<sup>th</sup>

Floor), 68, New Paltan, Dhaka. At present the chairperson of this association is Mr. Kafil Uddin Ahmed.

Import of chemical fertilizers is done by inviting open tender internationally. Only registered contractors of the Government participate in the tender and finally tender committee decides through whom the Government will import fertilizers.

#### **Smuggling of Fertilizer:**

In spite of high cost of production and import, Government gives subsidy by selling urea through dealers at a price of Tk.4800 per MT from the factory and Tk.5300 per MT from buffer stock. According to present law, only dealers can sell fertilizers. So, there is no chance of smuggle in of chemical fertilizers in Bangladesh according to the statement of BCIC officials. As Government is selling fertilizers by giving huge amount of subsidy, there is high probability of smuggle out of chemical fertilizers to the neighboring countries.

#### **Distribution Process of Chemical Fertilizers and Buffer Stock:**

Government sells chemical fertilizers through selected dealers only and this dealer system covers upto sub-district area. There are selected unions under every sub-district for each dealer. Each dealer can select maximum three representatives for selling fertilizers in his area.

There were 22 buffer stocks of fertilizers owned by the Government. But recently two more stocks were taken by the Government through requisition. So, now the number is 24. At first imported fertilizers are kept in the buffer stocks and then according to the demand of District Commissioners, Marketing Division of BCIC distributes fertilizers to the dealers. Excess fertilizers produced in the factories are also kept in the buffer stock. Generally, to fulfill extra demand during August – September and December – February, fertilizer is delivered from buffer stocks. The stock comes down to its lowest quantity during March and reaches to its highest during December.



## Company Overview

### **British American Tobacco – The World’s Most International Tobacco Group:**

BAT is the world’s second largest quoted tobacco group by global market share, with brands sold in 180 markets. With more than 300 brands in its portfolio, it makes the cigarette chosen by one in seven of the world’s one billion adult smokers. It holds robust market positions in each of its regions and has leadership in more than 50 markets.

The group’s subsidiary companies have 64 cigarette factories in 54 countries producing some 678 billion cigarettes and seven factories in six countries manufacturing cigars, roll-your-own and pipe tobacco. The group’s associate companies have 14 cigarette factories in seven countries producing some 232 billion cigarettes. BAT, including associates, directly employ almost 97000 people worldwide.

Its business enables Government worldwide to gather over £15 billion a year in taxes, including excise duty on its products, over 8 times the entire group’s profit after tax. The company has sustained a significant global presence for over 100 years. It was founded in 1902 and by 1912 had become one of the world’s top dozen companies in terms of market capitalization.

<b>Participants in Global Tobacco Market</b>	
<b>Company</b>	<b>% of Market Share</b>
Phillip Morris	18.7
British American Tobacco	17.1
Japan Tobacco	7.7
Imperial Tobacco	3.5
Gallaher	3.1
Altadis	2.1

### **History:**

British American Tobacco (BAT) Company began its operation in the subcontinent in 1910 as Imperial Tobacco Company Ltd. with its head office in Calcutta where cigarettes were made in Carreras Ltd. Calcutta. Carreras and Imperial merged into a single company in 1943. After the partition Pakistan Tobacco Company (PTC) came

into existence with its head office in Karachi in 1949. The then PTC's East Pakistan office was situated in Armanitola and ultimately moved to Alico Building, Motijheel, Dhaka. In 1954 PTC established its first cigarette factory in Chittagong although high-grade cigarettes still came from West Pakistan. The Dhaka factory of PTC went into production in 1965.

After independence, Bangladesh Tobacco Company Pvt. Limited (BTC) was formed in February 02, 1972 with British America Tobacco holding 65% shares in BTC. In March 1998 BTC changed its name and identity to British American Tobacco Bangladesh (BATB) pronouncing its common identity with all other operating companies of the group.

### **Slogan:**

The slogan of BATB company is "Success and responsibility go together".

BATB has an impressive track record of balancing success and responsibility in its operations over the years. It currently holds more than 50% volume share of the Bangladesh cigarette market. While its volumes have grown over the years, it has also been able to grow its contribution to the Government's revenue. It paid more than Tk.2200 crores and Tk.1800 crores in 2005 and 2004 respectively – in the form of VAT and Supplementary Duty. This makes it the second largest tax payers in the private sector. BATB is also one of the largest companies in terms of market capitalization that are listed in both Dhaka and Chittagong Stock Exchange.

BATB has comprehensive operations in Bangladesh. It often terms this as '**seed to smoke**' which means it has operations ranging from growing tobacco to distribution of cigarettes. Its different functions work in an integrated approach with shared goal of achieving the company's vision and objectives.

### **Business of BATB:**

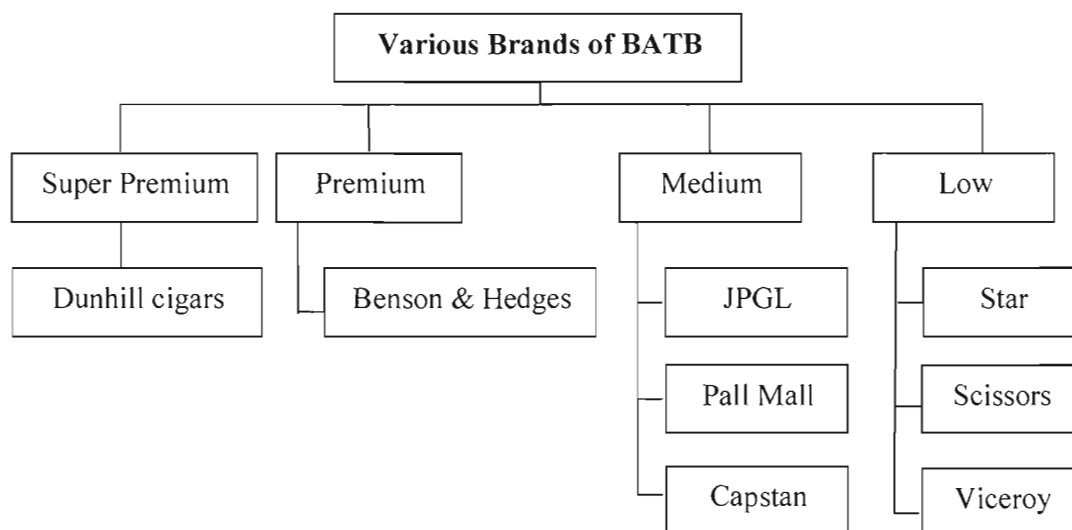
BATB is a public limited company with an authorized capital of Tk.60 crores listed with both Dhaka and Chittagong stock exchanges. It leads the cigarette industry in Bangladesh with a market share of more than 50%, employing around 1400 people directly including seasonal and temporary workers and more than 40,000 indirectly as farmers, contractors, distributors and suppliers.

It has leaf-growing operations in 19 districts of the country and around 24500 farmers are contracted with the company who produce high quality tobacco leaf. Its leaf operation is organized in seven regions that are grouped under two divisional head quarters in Khustia and Chittagong. It has a green leaf threshing plant in Khustia.

Its business partners include printing houses, distribution houses, farmers, retailers, banks, advertising agencies, creative design houses and other suppliers. The company supports its business partners to achieve high quality international standards through facilitating in attaining skills and knowledge that help them not only in their business with the company but also in many other areas.

**Brands of BATB:**

Informed adult smokers are the customers of BATB and they are the key to its success. All its marketing and manufacturing is geared towards the understanding and satisfaction of their diverse preferences.



BATB operates in all key segments of the cigarette market with the key drive brands like Benson & Hedges, John Player Gold Leaf, Pall Mall and Star.

- **Benson & Hedges:** Launched in Bangladesh in 1997, it has come a long way with noteworthy growth and now stands as one of the largest Benson & Hedges markets in the world. In its continuous drive to uphold its premium quality and superior image, it has introduced sophistication in engaging with its target customers.

- **John Player Gold Leaf:** The voyage started in 1877, when John Player & Sons was established in Nottingham, England with their first tobacco brand – Players Navy Cut. The current trademark – a lifebuoy with pictures of a sailor and a ship was created in 1891. John Player Gold Leaf was introduced in Bangladesh in 1980. The old pack was changed to the current red & white pack in 1995.
- **Pall Mall:** Pall Mall was introduced in 1899 and with a strong American heritage, is now sold in some 60 countries. Pall Mall is the first Global Drive Brand to be launched in Bangladesh on 19 March 2006. All three variants (Full Flavor, Lights & Menthol) of Pall Mall have created new excitement and vibe in the Tk.2 segment.
- **Star:** It is one of the fastest growing brands in Bangladesh cigarette market. Launched in 1964, the brand has evolved remarkably over the years. With its rich heritage and consistent quality, the brand has satisfied million of smokers and became one of the leading national brands in its segment. The brand was rejuvenated in 2003 with a new and modern pack and imagery communication.

#### **Guiding Principles of BATB:**

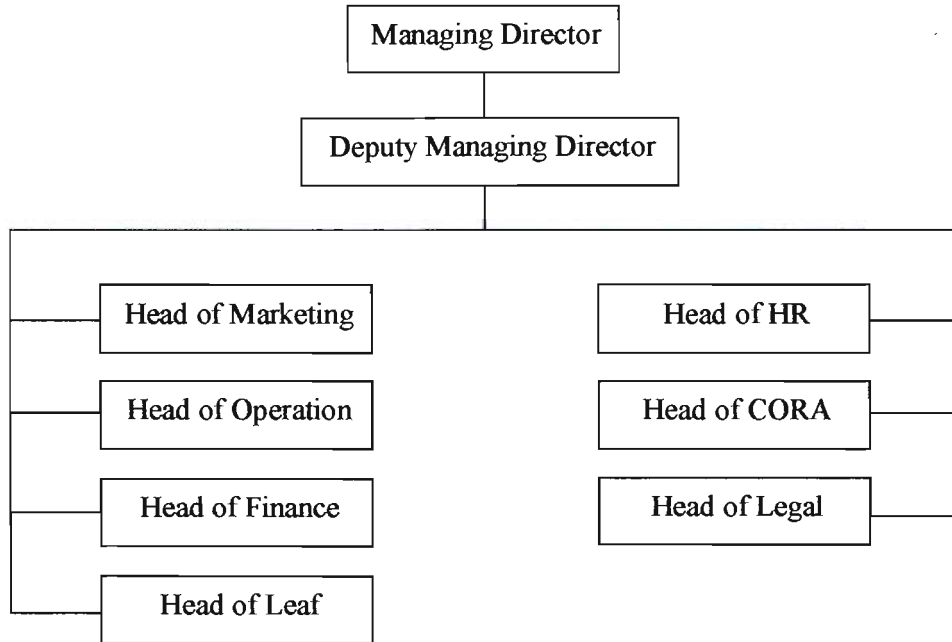
BATB is guided by a set of principles and follows a vision – “Extending the leadership through world class performance”.

The four guiding principles describe key characteristics of the organization and guide it in its working life. The attempt to capture the way work together, deal with organizations, communities, partners and other companies are key to its success. These principles are given below:

- **Strength from diversity:** The company actively utilizes diversity- of people, cultures, viewpoints, brands, markets and ideas to create opportunities and strengthen performance.
- **Open minded:** The employees of the company strive to be an active listener, genuinely considering others’ viewpoints and not pre-judging.
- **Freedom through responsibility:** The freedom to take decisions and act on them obliges the employees to accept personal responsibility for the way they affect the stockholders.

- **Enterprising spirit:** The confidence to seek out opportunities for success, to strive for innovation and to accept the considered risk taking that comes with it.

**Hierarchy of Executive Committee:**



**Vision and Strategy of BATB:**



**Vision:**

BATB's vision is to achieve leadership of the global tobacco industry in order to create long-term shareholder value. Leadership is not an end in itself, but a company that leads its industry, is the preferred partner for key stakeholders and is seen to have a sustainable business, should be valued more highly.

It defines leadership in both a quantitative and qualitative sense. Quantitatively, it seeks volume leadership among its international competitors and in the longer term, value leadership. The company recognizes that its success will depend on adult consumers and that, therefore, it must be consumer driven.

But the hard, quantitative measures do not in themselves address all the things it must do as a company. It takes a long-term view, focusing on the quality of its business and how it works. As a result, qualitatively, it seeks to be recognized as industry leaders and to be the partner of first choice for governments, NGOs, investors and potential employees. It will do this by continuing to demonstrate that it is a responsible tobacco group, with a sustainable business, outstanding people and superior products.

In order to deliver its vision, its strategy for creating shareholder value has four elements around which all its efforts revolve - Growth, Productivity, Responsibility and Winning Organization.

**Strategy:**

The four building blocks of BATB's strategy are Growth, Productivity, Responsibility and developing a Winning Organization. Each is interdependent and essential for delivering profit growth and long-term business sustainability.

- **Growth:** BATB seeks to increase its volume and value share of the global tobacco market through both organic growth and mergers and acquisitions.

For organic growth, it is concentrating on the key strategic segments of the market that offer the best prospects for long term growth, including Premium and International Brands. It continues to focus on the growth of its Global Drive Brands as well as being prepared to exploit opportunities for profitable volume growth in Value for Money and Low Price Segments. The company also wishes to sustain or develop strong positions in priority markets – simply defined as the largest and most profitable ones. It also believes it is important to

continue to develop and utilize innovative, differentiated products and to offer consumers added value from its brands.

- **Productivity:** BATB's overall approach to productivity is about using its global resources to increase profits and generate funds for reinvesting in business. Today, all companies are trying to cut costs. Its approach is integrated - aiming to establish a lower cost base while improving the quality of products and the speed they get to the market, as well as its effectiveness in terms of how it deploys its people and capital.

To remain competitive, it is important to reduce the complexity and costs across the entire supply chain, while also improving the service to retailers and ensuring product freshness and integrity. The company has programs in place to find reductions in the Overheads and Indirects (anything it spends money on other than leaf, wrapping materials, cigarette making machinery and permanent labor costs) and makes the most of its global buying power. BATB is on track to deliver real savings of £400 million per annum by 2007. In short, its aim is smart cost management. As a group focused on its consumers, marketing is a large part of what BATB does and it is working to ensure that it effectively and efficiently deploy its marketing resources.

In order to maintain a strong balance sheet, capital effectiveness is an important part of BATB's productivity strategy and includes a focus on inventory levels, utilizing assets, financing and other uses of capital.

- **Responsibility:** BATB will continue to balance its commercial objectives with the expectations of a broad range of stakeholders, thus ensuring a sustainable business.

The company is communicating with stakeholders about its Business Principles, which explain the way it expects its businesses to be run in terms of responsibility, and demonstrating how it is following them. Its three Business Principles, Mutual Benefit, Responsible Product Stewardship and Good Corporate Conduct are each underpinned by a number of Core Beliefs. At all times, BATB acts in accordance with its Standards of Business Conduct, which express the high standards of business integrity it requires from its employees worldwide.

In the regulatory arena, it will continue to promote sensible tobacco regulation that:

- balances the preferences of consumers with the interests of society
- establishes an open-minded and objective approach to harm reduction as a policy
- ensures that its businesses can compete and prosper.

The company manufactures products that can be harmful to the health of its consumers and have publicly stated its aim to reduce this harm to meet both consumer needs and societal expectations. BATB will do this by:

- the progressive reduction in the tar and toxins in its products
- the successful launch of a new generation of tobacco products with critical mass appeal that are recognized by scientific and regulatory authorities as posing substantially reduced risks to health.

- **Winning Organization:** BATB is confident in its strategies for Growth, Productivity and Responsibility but to deliver the vision it must also have the right people and the right working environment. That is the essence of its Winning Organization strategy.

By the right people, it means outstanding people - those with the ability and desire to drive and deliver competitive advantage and superior performance. The company wants to attract, develop and retain high caliber talent. It also wants an organization that is constantly learning. This learning culture shares knowledge quickly, learns from its mistakes and replicates success formulas quickly.

British American Tobacco Bangladesh must also be a great place to work. This requires an open, confident culture that encourages change and innovation, is shaped by its Guiding Principles, inspire its people to perform to their best and importantly, enjoy their work.

Finally, BATB's Winning Organization strategy requires that it develop leaders at all levels in the organization with a clear vision for the business, who foster innovation and can align, energize and enable their teams to contribute to the building of this global enterprise.



### **Business Principles of BATB:**

As a responsible leader, BATB needs to set boundaries around what is acceptable behavior in the pursuit of business objectives. The business principles are a set of three broad principles which would guide BATB in everything it does and every decision it makes. These principles are:

- **Principle of mutual benefit:** Essentially, BATB believes that it is in business to consistently deliver value to its shareholders – after all they own the business and BATB wants to demonstrate that it is in it for the long haul. BATB also believes that the best way to make sure it can deliver value is to understand and consider the needs of all of those involved with the business and those that BATB may affect.
- **Principle of responsible product stewardship:** Responsible product stewardship is about BATB's belief that it should develop, manufacture and market its products and brands in the most responsible manner. Its role is to meet adult customers' demand in a way which recognizes the health risks associated with its products and seeks to address legitimate concerns about them. BATB needs to do this in a way that conforms to its legal and social obligations.
- **Principle of good corporate conduct:** Success brings with it a lot of responsibilities and BATB tries to go all out to achieve the highest standards of behavior and integrity in everything it does, everywhere it operates. Its commitment to good corporate conduct should never be compromised for the sake of results.

### **Internal Control of BATB:**

The internal control system of BATB is designed to manage risk that may impede the achievement of the company's business objectives rather than eliminate these risks. The ultimate responsibility of the internal control system lies with the Board of Directors as it ensures that the importance of internal control is understood across the company and that adequate resource allocations are available.

Internal Control is the process by which the company's directors, management and staff obtain reasonable assurance as to the achievement of specified objectives including:

- Efficiency and effectiveness of operations.

- Safeguarding of assets.
- Reliability of financial and other management information.
- The prevention of fraud.
- Compliance with relevant national laws and company regulations.

BATB continues to ensure the presence of the following components that contribute to an effective internal control system:

**Control Environment:**

The Board of Directors sets the tone for an effective control environment through regular reviews of the processes for identifying, evaluating and managing the significant risks. The Standards of Business Conduct (SoBC) are signed off by each individual each year to provide assurance that these standards are communicated understood and complied with. As part of the SoBC, a whistle blowing process is in place that facilitates confidential reporting of any concerns. An effective control environment is set by top management that cascades across all business functions. Every year the top team conducts a self-assessment of key controls that effects the business and draws up action plans to make the internal control environment more robust.

**Risk Assessment:**

The company has an ongoing risk management process to identify key business risks and to ensure that mitigation plans are in place. Process risks are also assessed at the audit planning stages whereby objectives are reviewed along with the associated risks that may potentially affect the achievement of these objectives. Appropriate risk responses are articulated to enable the company to achieve its objectives effectively.

**Control Activities:**

Control activities are the policies and procedures that help to ensure the management directives are carried out and the necessary actions are taken to minimize the risks of failing to meet objectives. Policies and procedures are effectively established within the company and continuously reviewed for compliance, adequacy and improvement.

**Information and Communication:**

The company ensures the effective flow of information on internal activities and external factors across the management levels. All individuals receive a clear message from senior management that control responsibilities must be taken seriously.

**Monitoring:**

The system of internal control is monitored regularly through both ongoing activities and separate evaluations. Ongoing monitoring is conducted through regular management activities. The internal audit function is responsible for providing an objective and independent view of the effectiveness of operational and functional controls and procedures, as well as management action in dealing with issues of control. The internal audit function monitors the presence of the components of the internal control system and reports to the audit committee.

**Development of Awareness:**

The Board, through the Audit Committee, ensures that an awareness of internal control is enhanced throughout the company. This occurs through management self assessment of controls, discussion of internal control issues at management meetings, off the job education on internal control and through creating an environment and control attitude within the company that is challenging, proactive and considers the worst case scenarios to gauge the appropriateness of controls.

The Board has delegated the process of reviewing the effectiveness of internal controls to the Audit Committee. The Audit Committee met 4 times during 2005. The committee monitored the presence of the control environment and reviewed independent assessments of business processes within the company.

**Corporate Social Responsibility of BATB:**

“Success and responsibility go together” is the motto that has driven BATB. It seems from the belief that the company should play an important role in corporate social responsibility. It is contributing to the social sector as well as to the economy, even as it consolidates its success. BATB is the number one taxpayer in the tobacco industry of Bangladesh.

One of its core business philosophies is doing business in the most ethical and socially acceptable manner. The company is taking forward its commitment for contributing in the development of the country through its endeavors in the various social, economic and environmental sectors of the country. A list of corporate social responsibility of BATB is given below:

- Afforestation with free sapling distribution program.
- Leaf Social programs for farmers.

- Biodiversity.
- Education.
- ‘Battle of Minds’- a talent promotion program.
- ‘Dishari’- a basic IT education center (Free of cost IT education for the less privileged).
- ‘Effluent Treatment Plant (ETP)’ for the treatment of the waste water.
- Primary health care support.
- Malarial prevention.
- Sanitation support.
- Vegetable export aimed at helping the country to earn foreign exchange.
- Tackling underage smoking.
- Eliminating child labor.

**Leaf Department:**

At the time of the liberation war in 1971, only 600 acres of land were used for the production of cigarette type of tobacco. Major portion of the total local requirement of cigarettes were imported from West Pakistan. Immediately after the independence, owing to the shortage of foreign exchange, import had to be reduced. There was an urgent need for increasing local production of tobacco. The sustaining efforts of the company and the response of the farmers were so effective that the country became self sufficient in cigarette tobacco by 1975. In recognition to that outstanding performance, the company was awarded the President’s Medal in 1976. In 2007, the company purchased about 30 million kilograms of tobacco leaf from its registered farmers.

The Leaf department is involved in cultivating and purchasing Flue Cured Virginia (FCV) and Burley tobacco for domestic and export purposes. BATB does not own farmland nor does it employ farmers directly to produce the tobacco it uses for cigarette production. Instead, each year the company registers thousands of farmers along with their land, to grow and cultivate tobacco crop. The company provides seed, fertilizer, and other loans to the farmers throughout the crop season to ensure quality growth. At the end of the season BATB buys fixed quantity of tobacco leaf from the farmers, paying rates based on the grade of the crop and as per Government legislation and company policy. Tobacco growing and buying activities are conducted throughout the

country. The two main areas are Kushtia Leaf Division and Chittagong Development Area.

Leaf Department is keen to work in the most responsible manner as far as practicable for its farmers and the farming community in terms of environment, health and safety, economic empowerment, etc. it is directly involved in research and development activities to bring about improvement in respect of quality and farmers' profitability thereby ensuring 'Win-Win' situations.

**Leaf Mission:**

To become the benchmark leaf operation in the region through enhancing capabilities for-

- Production of high quality leaf at the lowest cost.
- Consistency of supply and quality of services to both domestic and export customers.
- Proactive support to corporate social responsibility projects.

**Leaf Strategic Direction:**

- Support domestic brand portfolio and export.
- Drive import substitution.
- Maximize leaf export.
- Drive leaf social.

**Leaf Objectives:**

- Increase the total green volume while improving the quality.
- Reduce BATB import of leaf.
- Be the net exporter of leaf by 2012 whilst fully supporting the development of brand portfolio in the domestic market.
- To be seen and recognized as a responsible leaf operation working as a key partner for sustainable development of the farming community

## **Crop Input (Chemical Fertilizer) & Tobacco Growing**

**Fertilizer:** It may be defined as any substance (chemical, organic and microbial) that is added to the soil to supply essential plant nutrients. In a specific sense, fertilizers are chemicals that occur naturally or are produced in the factory and when added to the soil, supply nutrient elements required for better plant growth. The following are examples of different kinds of fertilizers:

- Chemical fertilizers: Urea, DAP, TSP, SSP, SOP, MOP etc.
- Organic fertilizers: Cow-dung, Farmyard manure, Compost, Green manure etc.
- Bio-fertilizers: Rhizobium bio-fertilizer, Azospirillum bio-fertilizer, Blue-Green algae etc.

### **Need for Using Fertilizers:**

Soil is the main supplier of plant nutrients. Plants derive 13 essential nutrients out of 16 from the soils. They derive Carbon from  $CO_2$ , Hydrogen from water and Oxygen from air. But soils vary considerably in their inherent capabilities to supply nutrients which gradually decline over time due to intensive cropping with high yielding varieties, very little or no use of organic materials and improper soil and crop management practices. As a result, crops suffer from inadequate supply of nutrients which is reflected in poor yield and quality. Therefore, there is a need to add nutrients to the soil through fertilizers in order to get desired yields.

Bangladesh, though a small country, has a wide diversity and complexity of soils at short distance due to a complex nature of physiographic, parent material, low hydrology and drainage condition. This has been further complicated by human interferences. As a result, continuous changes are taking place in the soil fertility status due to organic matter depletion, soil erosion, nutrient deficiency/toxicity, drainage impedence/water logging followed by degradation of soil physical and chemical properties and soil salinity etc. These are location specific problems. Our growers often fail to realize the detrimental effects of these local factors while making their own decision on fertilizer use.

Thirty agro ecological region and 88 sub-regions have been identified by adding successive layers of information on the physical environment which are relevant for our land use and for assessing agricultural potential. Agro ecological regions and sub-

regions are very broad units. The fertility status of these regions varies considerably. Individual farmers have fragmented the land into small pieces causing wide variation in the management of each and every piece of land by the farmers of different economic groups. This led to the large variation in the fertility levels even between adjacent plots.

**Advance Crop Input Policy of BATB:**

BATB has a policy on Advance Crop Input in tobacco production that is to align with the BATB Leaf Strategy and BAT's SRTP (Social Responsibility in the Tobacco Production) guidelines.

Company aims at the continual improvement in the quality of tobacco production through its comprehensive supervised growing program emphasizing on GAP (Good Agricultural Practices), maintenance of hygienic environment and better field management plans.

For successful crop growing, support to farmers with crop inputs is imperative in the context of farmers' economic conditions. Further some of the inputs are specific to tobacco only and as such have to be imported. BATB is committed to ensure OTIF (On Time In Full) procurement and supply of unadulterated (especially fertilizers and pesticides) quality inputs as per global guidelines to its qualified registered farmers at a price (free of interest) set by the company. In general, farmers' loan is recoverable from their sale proceeds. However, in the event of unforeseen circumstances, any change in the realization process will be approved in the LOP and any waiver/write off will have to be approved in the SOP process.

Company adheres to all local and group regulations on crop input usage in its all level of leaf operations and committed to establish all relevant best practices.

**Agrochemical Policy of BATB:**

The company aims at reducing the use of chemical products in tobacco growing operation through appropriate husbandry, hygienic environment and better field management. Agrochemicals, if at all used, must be of the right type with the right dosage at a right time. The company seeks to ensure that there is no residual chemical content in the soil and ground water in order to protect nature and wild life species.

The company is committed to establish the best National and International practices in agrochemicals transportation, distribution, disposal method of old surplus chemicals and empty containers. The company also encourages the usage of bio-friendly

substitution of insecticides, pesticides and fungicide wherever possible in the leaf growing and storage areas and promotes Integrated Pest Management (IPM).

This policy is applicable throughout the company operations.

**Objective (Agrochemicals):**

It is the objective of the company to ensure that –

- No part of its operation uses agrochemicals which are hazardous to company and non-company personnel, wildlife and nature in short and long term application.
- Any agrochemical in use must be BAT approved and their application methods should be as per BAT guidelines as well as compliance to local legislation.
- Usage of approved Personal Protective Equipment (PPE) to be mandatory during application.
- Agrochemical storage and transportation must be as per BAT guidelines.
- Documented inventories for the agrochemicals to be available.
- Residue chemical level in leaf tobacco and cut rags must not exceed the set standard of BAT and local law, if any.
- No residual agrochemical to be present in the soil and ground water exceeding the limits set by BAT and/or local legislation (This should be ensured by soil and ground water test).
- Imparting useful training to the staff, farmers and contractors using, handling and carrying the agrochemicals on safe use and disposal methods.

**Agrochemical Management Program:**

The company is committed to sustain the position of least agrochemicals user in AMESCA world. However, for better control of the usage of agrochemicals, the following criteria should be followed:

- Right type of chemicals to be selected as per BAT guidelines.
- Procurement should be done from the registered agrochemical manufacturer having compliance with local legislation. Quantity to be ascertained on need basis.
- Ensure proper dose as per recommendation.
- Old, left over stock (if any) and empty container to be disposed of as per BAT guidelines.



- Priority should be given for IPM and botanical formulations.
- Identify resistant varieties against pests and diseases acclimatized in our respective growing areas.
- Ensure agrochemical residue analysis of tobacco leaf and cut rags as per BAT guidelines.
- All operating locations should have inventory control system.
- Stored chemicals should be monitored on regular basis and recorded.
- Organize training program for staff and concerned persons on safe use of agrochemicals handling, application, equipments, PPE and disposal of empty containers.

**Role of Primary Nutrients (NPK) in Plant Growth:**

**Nitrogen (N):** It has a greater effect on tobacco yield and quality than any other nutrient.

- Too little nitrogen reduces yield and results in pale, slick cured leaf.
- Too much nitrogen may increase yield slightly but may also make curing more difficult, delay maturity, extend curing time and result in more unripe leaf.

**Phosphorus ( $P_2O_5$ ):** It is not leachable, even in sandy soils and a good crop removes about 37.5 pounds per hectare. Only it forms different complex by reacting with Aluminum and Ferrous rich soils and thereby at times less available to plants as available form.

- Adequate phosphorus enhances the process of photosynthesis, stimulates early root development, maturity and helps in the improvement of leaf quality.
- Deficiency of phosphorus causes delayed growth and maturity. In the case of nitrogen effect of phosphorus shortage is found first in the lower leaves of the plant and then become dark brown in color.

**Potassium ( $K_2O$ ):** As an essential mineral element, it is absorbed and needed in large amounts.

- It helps in cell division.
- The effect of high levels of nitrogen is reduced by high potash levels.
- Potassium imparts disease and drought resistance.

- Potassium deficiency may be accentuated by excess nitrogen, particularly in the ammonium form and by high levels of magnesium and sulphur.
- The potassium deficiencies is felt in cured leaf by reducing leaf size, ragged appearance, off type in color, poor in body elasticity, aroma and ability to condition.
- Deficiency of potassium manifests in a typical mottling or chlorosis of the tips and margins. A ragged appearance of the leaf. Production of leaves of bluish green shade.
- Acute shortage results in cupped appearance of leaves.
- It has been observed that potassium deficiency symptoms appear first and are most severe in rapidly growing plants.

**Fertilizer Recommended by BATB:**

To recommend the inorganic fertilization dose for a particular land, uses of different sources of organic matter in tobacco production have to be taken in account. BATB provides chemical fertilizers to its registered farmers according to the following manner:

Name of Fertilizer	Quantity/Hectare (Kg)
Urea	125
DAP	187.5
SOP	250
TSP	187.5

**Method of Application:**

Proper placement and timing of fertilizer application provide maximum return for each taka spent on fertilizers. The ultimate objective with fertilizers application at the proper time and proper method is to maximize nutrient use by the crop while minimizing leaching losses and fertilizer salts injury to roots. The following methods of application are in practice in BATB's leaf growing areas:

- Base placement beneath the ridge.
- Ring (circle around) method.
- Dollop method.
- Side dress method.

- Pop-Up method.

BATB advises to its growers to go with base placement beneath the ridge for tobacco cultivation.

### **Time of Application:**

BATB advises to its farmers to apply fertilizers according to following manner:

- First application of full dose of Phosphorus, 25% of Nitrogen and 50% of Potassium as base placement beneath the ridge or within 10 days of plantation.
- 50% of Nitrogen and Potassium fertilizer applied within 15 – 20 days of plantation.
- Rest 25% of Nitrogen fertilizer applied within 35 + (-) 5 days of plantation.
- In special circumstances like heavy rainfall and exceptional cases like sandy topsoil, the Nitrogen fertilizer is recommended for adjustment of leaching.

### **Commonly Used Chemical Fertilizers and Their Nutrient Compositions (%):**

Source	Formula	N	P	K	S	Ca
Urea	$CO(NH_2)_2$	46	-	-	-	-
Triple Super Phosphate	$Ca(H_2PO_4)_2$	-	20	-	1.3	14
Single Super Phosphate	$Ca(H_2PO_4)_2$	-	8	-	12	20
Diammonium Phosphate	$(NH_4)_2HPO_4$	18-21	20	-	1	-
Potassium Sulphate	$K_2SO_4$	-	-	42	18	-
Gypsum	$CaSO_4 \cdot H_2O$	-	-	-	18	33
Muriate of Potash	$KCl$			50		

### **The Survey:**

I have conducted a survey on the impact of chemical fertilizers on tobacco growing and for that purpose I randomly selected 50 tobacco farmers both registered (25) and unregistered (25) from Chechua Leaf Region.

- **Registered farmer:** These farmers are registered with BATB and they are eligible of getting chemical fertilizers from the company as interest free loan.

- **Unregistered farmer:** These farmers are not registered with BATB and they do not get any chemical fertilizers from the company.

### **Survey Questionnaire:**

In my survey I have used two open-ended questionnaires – one for the registered farmers and another for the unregistered farmers. These are given below:

#### **For registered farmers:**

- Q1. For how long you cultivate tobacco?
- Q2. Which fertilizers you use in cultivating tobacco?
- Q3. For how long you get fertilizer from BATB?
- Q4. What are the advantages of getting fertilizers from BATB?
- Q5. Do you face any kind of difficulty in collecting fertilizer from BATB?
- Q6. Do you get fertilizer at right price?
- Q7. Apart from BATB given fertilizers, which fertilizer you use?
- Q8. If you do so, from where you collect that fertilizer?
- Q9. Is there any difference between BATB given fertilizer and fertilizer from the market?
- Q10. In cultivating tobacco, you use which fertilizer at what quantity and at which time?
- Q11. At which method you use fertilizers in the main land?
- Q12. What are the advantages of using fertilizers at right time?
- Q13. What are the disadvantages of not using fertilizers at right time?
- Q14. Will you cultivate tobacco if you do not get fertilizers from BATB?

#### **For unregistered farmers:**

- Q1. For how long you cultivate tobacco?
- Q2. Which fertilizers you use in cultivating tobacco?
- Q3. As you do not get fertilizers from any company, what are the difficulties you face?
- Q4. Do you get fertilizers at right price from the market?

Pricelist of fertilizers at retail market:

Name of Fertilizer	Pricelist	
	2006 (Tk/Kg)	2007 (Tk/Kg)
Urea		
DAP		
SOP		
TSP		
Other ( )		

Q5. Do you get sufficient quantity of fertilizer from the market? If you do not then what are the reasons?

Q6. In cultivating tobacco, you use which fertilizer at what quantity and at which time?

Q7. At which method you use fertilizers in the main land?

Q8. What are the advantages of using fertilizers at right time?

Q9. What are the disadvantages of not using fertilizers at right time?

### **The Result:**

The summary of the results of survey is given below:

#### **For registered farmers:**

Q1. For how long you cultivate tobacco?

No. of Year	No. of Farmer
0 – 5	2
6 – 10	3
11 – 15	4
16 – 20	3
21 – 25	6
26 – 30	5
31 – 35	2
<b>Total</b>	<b>25</b>

Q2. Which fertilizers you use in cultivating tobacco?

Name of Fertilizer	% of Farmer as User
Urea	100
SOP	100
DAP	96
TSP	28

Q3. For how long you get fertilizer from BATB?

No. of Year	No. of Farmer
0 – 5	14
6 – 10	2
11 – 15	3
16 – 20	2
21 – 25	4
<b>Total</b>	<b>25</b>

Q4. What are the advantages of getting fertilizers from BATB?

The advantages are:

- Get fertilizers at right time, at right quantity and at right price.
- It is an interest free loan.
- Very good quality.
- Guarantee of getting fertilizers.

Q5. Do you face any kind of difficulty in collecting fertilizer from BATB?

Comment	% of Farmer
Yes	--
No	100

Q6. Do you get fertilizer at right price?

Comment	% of Farmer
Yes	100
No	--

Q7. Apart from BATB given fertilizers, which type of fertilizer you use?

<b>Comment</b>	<b>% of Farmer</b>	<b>Used Fertilizer</b>
Yes, I use more fertilizer	84	Zinc, Gypsum
No, I do not use	16	N/A

Q8. If you do so, from where you collect that fertilizer?

<b>Place of Collection</b>	<b>% of Farmer</b>
Retail Market	100
Anywhere else	--

Q9. Is there any difference between BATB given fertilizer and fertilizer from the market?

<b>Comment</b>	<b>% of Farmer</b>
Yes	92
No	08

92% farmers said that the quality of BATB distributed fertilizers is better than that from retail market.

Q10. In cultivating tobacco, you use which fertilizer at what quantity and at which time?

At the time of transplanting:

<b>Name of Fertilizer</b>	<b>Quantity Used (%)</b>	<b>% of Farmer</b>
<b>Urea</b>	0 – 25	36
	26 – 50	36
	51 – 75	08
	76 – 100	--
<b>SOP</b>	0 – 25	32
	26 – 50	40
	51 – 75	12
	76 – 100	12

Name of Fertilizer	Quantity Used (%)	% of Farmer
<b>DAP/TSP</b>	0 – 25	--
	26 – 50	--
	51 – 75	36
	76 – 100	60
<b>Zinc</b>	100	08
<b>Gypsum</b>	100	16

After 15 days of transplanting:

Name of Fertilizer	Quantity Used (%)	% of Farmer
<b>Urea</b>	0 – 25	44
	26 – 50	36
	51 – 75	08
	76 – 100	04
<b>SOP</b>	0 – 25	24
	26 – 50	44
	51 – 75	--
	76 – 100	08
<b>DAP/TSP</b>	0 – 25	60
	26 – 50	36
	51 – 75	--
	76 – 100	--
<b>Zinc</b>	100	08
<b>Gypsum</b>	100	04



After 30 days of transplanting:

Name of Fertilizer	Quantity Used (%)	% of Farmer
Urea	0 – 25	04
	26 – 50	40
	51 – 75	28
	76 – 100	12
SOP	0 – 25	16
	26 – 50	32
	51 – 75	12
	76 – 100	08
DAP/TSP	0 – 25	--
	26 – 50	--
	51 – 75	--
	76 – 100	--
Zinc	100	--
Gypsum	100	04

Q11. At which method you use fertilizers in the main land?

Name of Method	% of Farmer		
	1 <sup>st</sup> Dose	2 <sup>nd</sup> Dose	3 <sup>rd</sup> Dose
Base Placement	60	20	20
Dollop	--	4	12
Ring	--	12	--
Side Dress	--	4	40
Pop-Up	40	60	28

Q12. What are the advantages of using fertilizers at right time?

The advantages are:

- Increase the growth of tobacco plant.
- Increase the size and weight of tobacco leaf.
- Decrease the rate of infection of diseases.

- Color of tobacco leaf becomes dark green.
- The stem of the plant becomes healthy.
- Help to get yield of about 800 – 900 kilograms of tobacco leaf per acre.

Q13. What are the disadvantages of not using fertilizers at right time?

The disadvantages are:

- Decrease the growth of tobacco plant.
- Decrease the size and weight of tobacco leaf.
- The color of leaf becomes yellow or red before maturity.
- The tip of the leaf gets burnt.
- The tip of the leaf becomes curled.
- The tobacco plant becomes weak.
- The stem of the plant becomes narrow.
- Buds come out very quickly before the maturity of the plant.
- The plant is affected by various diseases.
- Reduce yield by 50% per acre.

Q14. Will you cultivate tobacco if you do not get fertilizers from BATB?

<b>Comment</b>	<b>% of Farmer</b>
Yes	20
No	80

36% farmers have said that they will cultivate tobacco but they will reduce their plantation area.

**For unregistered farmers:**

Q1. For how long you cultivate tobacco?

<b>No. of Year</b>	<b>No. of Farmer</b>
0 – 5	3
6 – 10	8
11 – 15	6
16 – 20	3
21 – 25	2

No. of Year	No. of Farmer
26 – 30	2
31 – 35	--
36 – 40	--
41 - 45	1
<b>Total</b>	<b>25</b>

Q2. Which fertilizers you use in cultivating tobacco?

Name of Fertilizer	% of Farmer as User
Urea	100
SOP	96
DAP	52
TSP	64
MOP	24
Gypsum	24
Zinc	16

Q3. As you do not get fertilizers from any company, what are the difficulties you face?

The difficulties are:

- Not getting fertilizer at right time, at right quantity and of right quality.
- Have to buy fertilizer at a very high price.
- Have to stand in long queue to buy fertilizer.
- Do not get fertilizer in the open market.
- Cannot buy fertilizer as loan.

Q4. Do you get fertilizers at right price from the market?

Comment	% of Farmer
Yes	04
No	96

Pricelist of fertilizers at retail market: (From survey)

Name of Fertilizer	Pricelist (Avg)	
	2006 (Tk/Kg)	2007 (Tk/Kg),
Urea	5.76	6.13
DAP	15.12	17.73
SOP	18.51	23.56
TSP	15.21	18.18
MOP	9.67	11.83
Gypsum	2.33	2.83

I have found this price from the unregistered farmers I surveyed. In some cases, there is no match between this price and actual retail market price.

Q5. Do you get sufficient quantity of fertilizer from the market? If you do not then what are the reasons?

Comment	% of Farmer
Yes	--
No	100

Reasons are:

- Fertilizers are not sold at open market.
- Dealer system is responsible.
- Lack of qualified Government Block Supervisor.
- Lack of proper reporting by them.
- Their reports do not reflect the farmers' actual demand.
- Their inability to quantify required amount of fertilizers at right time.
- Practice of nepotism by them.
- Lack of proper field inspection.
- Dealers do not get Government Distribution Order at right time.
- Corrupted Agricultural Officer and selected dealers of the Government.
- Government provides very small quantity of fertilizers against one card.

Q6. In cultivating tobacco, you use which fertilizer at what quantity and at which time?

At the time of transplanting:

<b>Name of Fertilizer</b>	<b>Quantity Used (%)</b>	<b>% of Farmer</b>
<b>Urea</b>	0 – 25	68
	26 – 50	20
	51 – 75	--
	76 – 100	--
<b>SOP</b>	0 – 25	36
	26 – 50	28
	51 – 75	04
	76 – 100	16
<b>DAP/TSP</b>	0 – 25	48
	26 – 50	40
	51 – 75	08
	76 – 100	04
<b>MOP</b>	0 – 25	04
	26 – 50	--
	51 – 75	--
	76 – 100	12
<b>Zinc</b>	100	08
<b>Gypsum</b>	100	08

After 15 days of transplanting:

<b>Name of Fertilizer</b>	<b>Quantity Used (%)</b>	<b>% of Farmer</b>
<b>Urea</b>	0 – 25	28
	26 – 50	56
	51 – 75	12
	76 – 100	04

Name of Fertilizer	Quantity Used (%)	% of Farmer
<b>SOP</b>	0 – 25	16
	26 – 50	44
	51 – 75	08
	76 – 100	--
<b>DAP/TSP</b>	0 – 25	24
	26 – 50	48
	51 – 75	08
	76 – 100	--
<b>MOP</b>	0 – 25	--
	26 – 50	04
	51 – 75	--
	76 – 100	--
<b>Zinc</b>	100	04
<b>Gypsum</b>	100	--

After 30 days of transplanting:

Name of Fertilizer	Quantity Used (%)	% of Farmer
<b>Urea</b>	0 – 25	04
	26 – 50	40
	51 – 75	44
	76 – 100	--
<b>SOP</b>	0 – 25	04
	26 – 50	24
	51 – 75	24
	76 – 100	04
<b>DAP/TSP</b>	0 – 25	16
	26 – 50	24
	51 – 75	36
	76 – 100	--

Name of Fertilizer	Quantity Used (%)	% of Farmer
<b>MOP</b>	0 – 25	--
	26 – 50	04
	51 – 75	--
	76 – 100	08
<b>Zinc</b>	100	--
<b>Gypsum</b>	100	04

Q7. At which method you use fertilizers in the main land?

Name of Method	% of Farmer		
	1 <sup>st</sup> Dose	2 <sup>nd</sup> Dose	3 <sup>rd</sup> Dose
Base Placement	44	36	20
Dollop	--	--	4
Ring	--	--	4
Side Dress	--	8	44
Pop-Up	56	56	28

Q8. What are the advantages of using fertilizers at right time?

The advantages are:

- Increase the growth of tobacco plant.
- Increase the size and weight of tobacco leaf.
- Decrease the rate of infection of diseases.
- Color of tobacco leaf becomes dark green.
- Help to get yield of about 800 – 900 kilograms of tobacco leaf per acre.
- Help to develop the root of the plant.

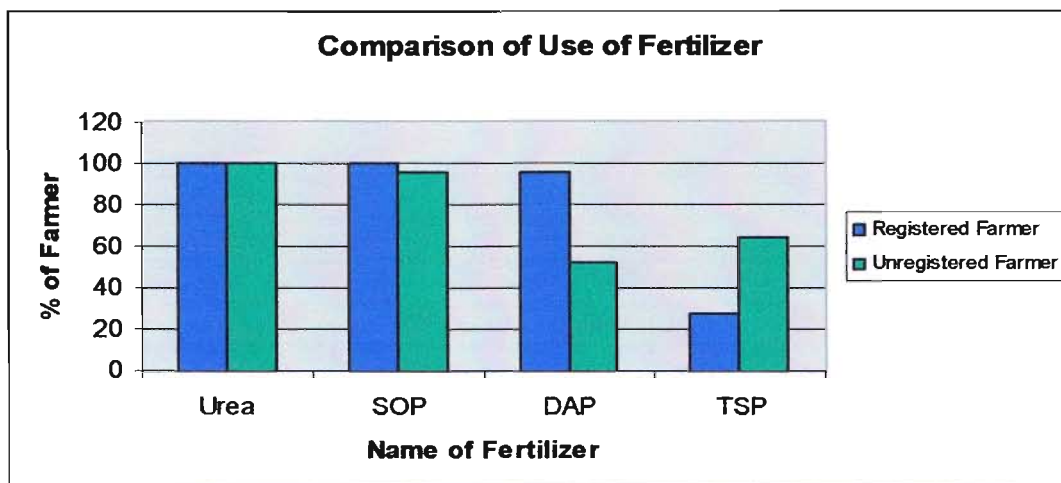
Q9. What are the disadvantages of not using fertilizers at right time?

The disadvantages are:

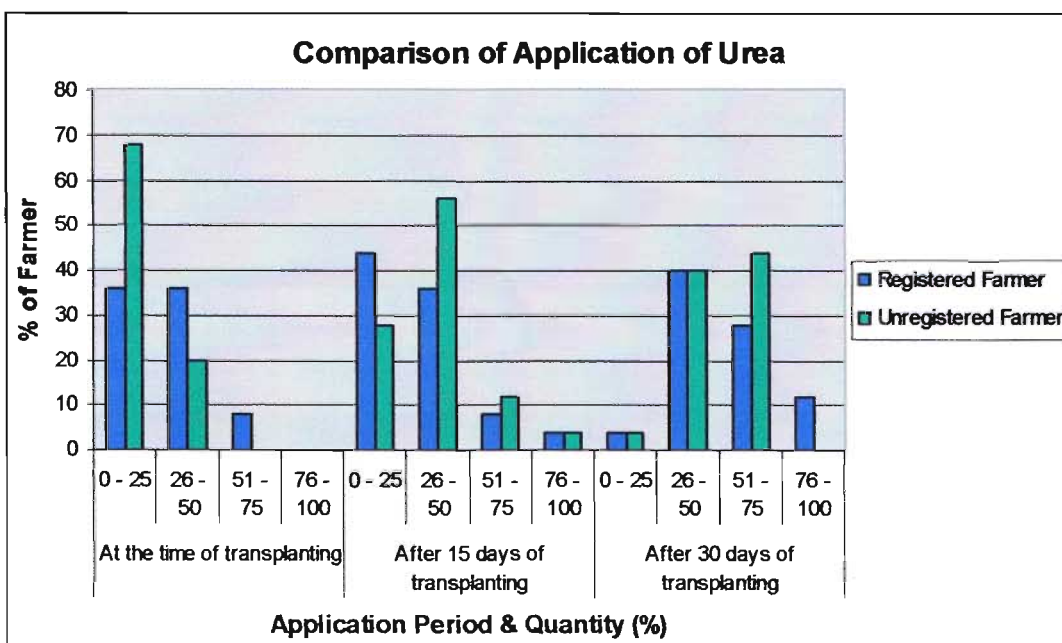
- Decrease the growth of tobacco plant.
- Decrease the size and weight of the leaf.
- The color of the leaf becomes white or yellow or red before maturity.
- The stem of the plant becomes narrow.
- Buds come out very quickly before the maturity of the plant.

- The leaf becomes curled.
- The plant is affected by various diseases.
- Reduce yield by 50% per acre.
- During curing process in the burn the leaf gets burnt.

**Comparative Picture between Registered & Unregistered Farmers:**

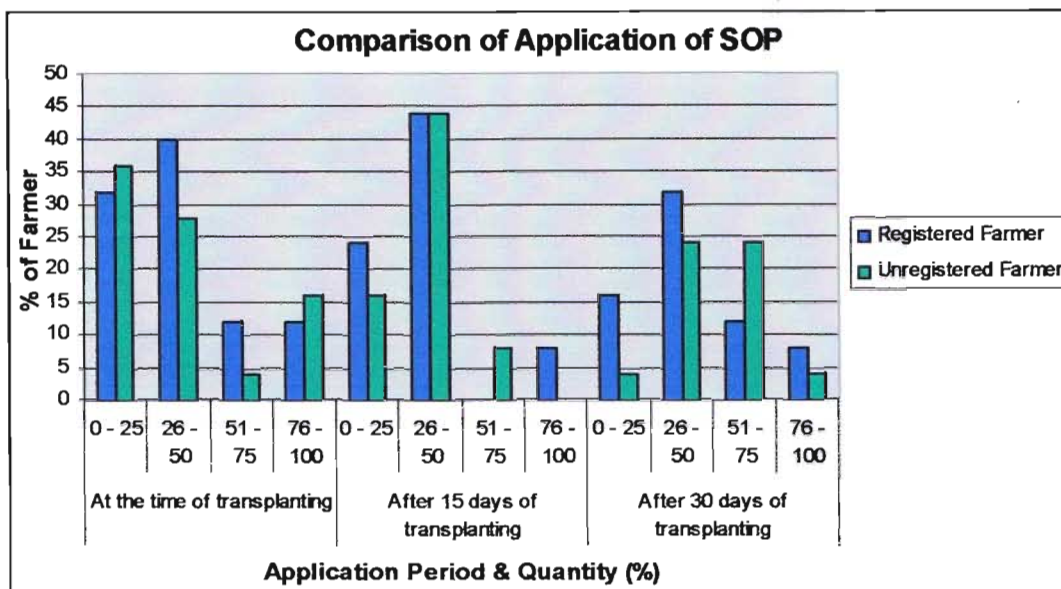


The above graph shows that 100% registered and unregistered farmers use both urea and SOP fertilizer in tobacco cultivation. But in case of DAP, registered farmers use it more than unregistered farmers and in case of TSP, the scenario is just opposite.

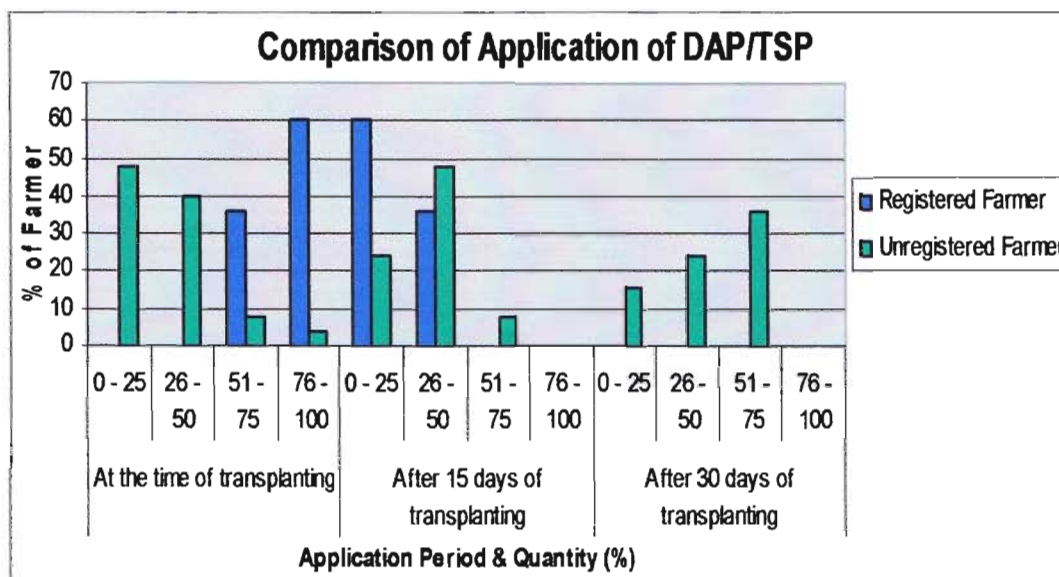




The above graph shows that registered farmers use urea in a balanced way throughout the lifecycle of the tobacco plant whereas more unregistered farmers use urea at the time of transplanting and after 15 days of transplanting.

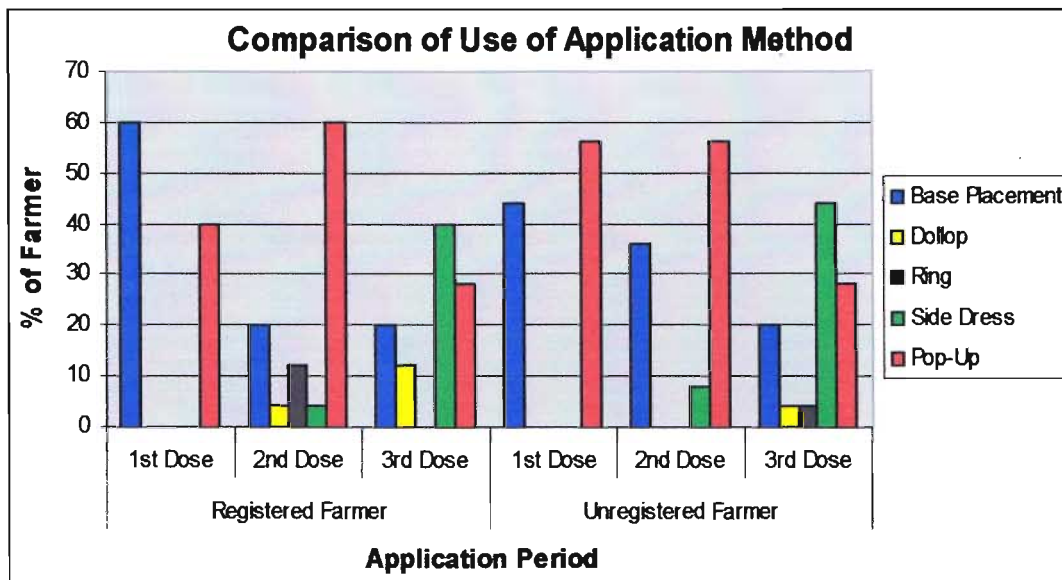


The above graph shows that there is no particular difference in the application of SOP fertilizer between registered and unregistered farmers.



The above graph shows that all the registered farmers use full amount of DAP/TSP within 30 days of transplanting and most of them apply more amount within 15 days of

transplanting. But unregistered farmers use more amount of DAP/TSP after 30 days of transplanting.



The above graph shows that most of the registered farmers use Base Placement method in their 1<sup>st</sup> dose of application than unregistered farmers. But unregistered farmers use more Pop-Up and Side Dress method for the application of fertilizers than registered farmers.

- BATB should make available the soil test machine to all its supervisors because now this machine is very cheap and easy to operate. Our farmers have the tendency of applying fertilizers on an average basis in the land. So, every year our soil is losing its fertility due to unbalanced application and to produce crops in that soil, farmers need to apply more chemical fertilizers than the previous year. So, if BATB provides fertilizers to its registered farmers after testing their soil, it will reduce the cost of production and will maintain soil fertility.
- In my survey, some farmers have shared their ideas that if BATB takes the responsibility of delivering chemical fertilizers by its own to every sub-area, then they can easily collect those. Then company can charge a price for delivery and farmers will pay that. Through this system, farmers can save their valuable time and there will be a chance of reducing the carrying cost.
- The survey also revealed that tobacco is the main cash crop of Kushtia and many farmers' livelihood depends on the future of this crop. So, to keep the growing continuity of tobacco, BATB should provide more chemical fertilizers and other crop inputs to its farmers and the management of the company should take it into proper consideration.

## **Bibliography**

- Agronomy Manual, British American Tobacco Bangladesh.
- Annual Report, British American Tobacco Bangladesh Company Limited.
- [www.bat.com](http://www.bat.com)
- [www.bcic.gov.bd](http://www.bcic.gov.bd)

## Appendix

The questionnaire is given below:

For registered farmer →

### তামাক চাষে সারের ভূমিকা নিয়ে প্রশ্ন

(তালিকাভুক্ত চাষী)

কৃষকের নাম :

এলাকা :

বিএটিবি - এর সাথে রেজিস্ট্রেশনের বয়সকাল :

#### প্রশ্ন :-

১। কত দিন ধরে তামাক চাষ করেন ?

উত্তর :

২। তামাক চাষে কি কি সার ব্যবহার করেন ?

উত্তর :

৩। বিএটিবি - এর কাছ থেকে কত দিন ধরে সার পান ?

উত্তর :

৪। বিএটিবি - এর কাছ থেকে সার পাওয়ায় কি কি সুবিধা হচ্ছে ?

উত্তর :

৫। বিএটিবি - এর কাছ থেকে সার সংগ্রহ করতে কোন অসুবিধার সম্মুখীন হন কি না ?

উত্তর :

৬। সার কি ন্যায্যমূল্যে পাচ্ছেন ?

উত্তর :

৭। বিএটিবি প্রদত্ত সার ছাড়া আর কি কি সার ব্যবহার করেন ?

উত্তর :

৮। করে থাকলে কোথা থেকে সার সংগ্রহ করেন ?

উত্তর :

৯। বিএটিবি - এর সার এবং বাজারের সারের মধ্যে কোন পার্থক্য আছে কি ?

উত্তর :

১০। তামাক চাষে কোন্ সময়ে, কোন্ সার কি পরিমাণে ব্যবহার করেন ?

উত্তরঃ

১১। কি পদ্ধতিতে জমিতে সার প্রয়োগ করেন ?

উত্তরঃ

১২। সময় মত সার প্রয়োগ করলে কি কি সুবিধা হয় ?

উত্তরঃ

১৩। সময় মত সার প্রয়োগ না করলে কি কি অসুবিধার সৃষ্টি হয় ?

উত্তরঃ

১৪। বিএটিবি - এর কাছ থেকে সার না পেলে তামাক চাষ করবেন কি না ?

উত্তরঃ

For unregistered farmers →

তামাক চাষে সারের ভূমিকা নিয়ে প্রশ্ন

(তালিকা বহির্ভূত চাষী)

কৃষকের নাম :

এলাকা :

প্রশ্ন :-

১। কত দিন ধরে তামাক চাষ করেন ?

উত্তর :

২। তামাক চাষে কি কি সার ব্যবহার করেন ?

উত্তর :

৩। কোন কোম্পানীর কাছ থেকে সার না পাওয়ায় কি কি অসুবিধার সম্মুখীন হচ্ছেন ?

উত্তর :

৪। বাজারে কি ন্যায্যমূল্যে সার পাচ্ছেন ?

উত্তর :

বাজারে সারের মূল্যতালিকা :

সারের নাম	মূল্যতালিকা	
	২০০৬ (টাকা/কেজি)	২০০৭ (টাকা/কেজি)
ইউরিয়া		
ডি এ পি		
এস ও পি		
টি এস পি		
অন্যান্য ( )		

৫। বাজারে কি পর্যাপ্ত পরিমাণে সার পাচ্ছেন ? না পেলে কারণ কি ?

উত্তর :

৬। তামাক চাষে কোন্ সময়ে, কোন্ সার কি পরিমাণে ব্যবহার করেন ?

উত্তর :

৭। কি পদ্ধতিতে জমিতে সার প্রয়োগ করেন ?

উত্তর :

৮। সময় মত সার প্রয়োগ করলে কি কি সুবিধা হয় ?

উত্তর :

৯। সময় মত সার প্রয়োগ না করলে কি কি অসুবিধার সৃষ্টি হয় ?

উত্তর :