Major Project

ON

Building an end to end supply chain of organic farm products

Submitted By:

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DECLARATION

I Sachin Malhotra student of EMBA 2014-2016 batch of Delhi School of Management, Delhi Technological University, Bawana road, Delhi-42 declare that term project "**Building an end to end supply chain of organic farm products**" submitted in partial fulfilment of Executive MBA program is the original work conducted by me.

The information and data given in the report is authentic to the best of my knowledge.

This Report is not being submitted to any other University for award of any other Degree, Award and Fellowship.

Sachin Malhotra
Place: New Delhi
Date:

ACKNOWLEDGEMENT

I express my sincere thanks to my project guide, Dr. Mohit Tyagi, professor at Delhi Technological University, Delhi, for guiding me right form the inception till the successful completion of the project. I sincerely acknowledge him for extending their valuable guidance, support for literature, critical reviews of project and the report and above all the moral support he had provided to me with all stages of this project.I also wish to express my gratitude for Dr. P. K. Suri (Head of the Department – DSM) who rendered his help during the period of my project work

I extend my gratitude to **Delhi School of Management-DTU** for giving me this opportunity.

Sachin Malhotra
Place: New Delhi
Date:

CERTIFICATE

This is to certify that this Project Report which is submitted by **Sachin Malhotra** in partial fulfillment of the requirement for the award of degree MBA in DSM-DTU, Delhi is a record of the candidate own work carried out by him under my supervision.

Place: New Delhi

Date:

Dr. Mohit Tyagi

(Guide - DTU – EMBA)

WWW.MyOrganicFarm.com

Source: www.asparkleofgenius.com

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1 Introduction on GST

The successful roll-out of GST in India is expected to be the biggest reform in Indirect tax regulation which will simplify the structure and add to India's economic growth. The concept of 'one market' presents opportunities for the industry to re-work logistics network, benefiting end-consumers. Uncertainty however prevails on the rate of GST and a swift pace is a must to meet the government's target of FY17 roll-out.

2 What is GST?

The Goods and Service Tax (GST) is a new form of indirect tax which will replace others like service tax, sales tax, octroi, central and state sales tax imposed under the current multi-tax system. It was expected to be a single tax levied by the central government on the production of goods and services. Currently, each state imposes a different tax. So, each state was counted as a different market by businesses. It is a huge task to move goods from one state to another due to differential taxes. GST will remove such demarcation and create a unified market. This is expected to help ease movement of goods across states and reduce costs for businesses. GST should reduce legal hassles, allow for a new supply chain model based on economies of scale, and improve competitiveness

Table 1 - Key items of nutritional and sanitary value of organic compared with conventional food

Increased contents	Reduced Contents	Comparable contents
Dry matter in vegetables	Pesticide residues in all food (mostly absent)	Mycotoxins in cereals & milk
Some minerals (iron, magnesium) in vegetables	Nitrates in vegetables	Most minerals in fruit, vegetables & cereals
Anti-oxidants in crops: Vitamin C (Potatoes) Polyphenols in fruit & vegetables. Salicylic acid in vegetables		Beta-carotene in fruit &vegetables
Polyunsaturated fatty acids in meat and milk	Saturated fatty acids in meat	
Most nutrients in wholegrain organic cereals and derivatives	protein content in grams	

3 Recent updates on GST Bill

- **GST Bill -** The long-pending GST bill was approved by Lok Sabha which will simplify and rationalize the complex tax structure and would remove the cascading impact of indirect taxes on economy.

- **Implementation** - GST is proposed to be implemented from April 1, 2016, will subsume excise, service tax, state VAT, entry tax, octroi and other state levies.

- **Alcohol to be out of the GST, Petroleum to be bought in at a later date** - All goods and services, with the exception of alcohol, will come under the GST. The bill also proposes to include petroleum under the GST but has left the decision over the timing of the same on the GST council. Taxes on alcohol and petroleum products make up major chunks of state revenues.

- **Revenue Neutral Rate (RNR) to be much below 27%** - While the RNR is under consideration and a final view on this would be taken by the GST Council, the finance minister assured that the new uniform indirect tax rate will be much less than 27%. The minister highlighted that the 13th Finance Commission had suggested 18% as a possible figure and hence the rate would have to be worked out.

- **Centre will compensate states for five years for the revenue losses -** The center will compensate states for five years for losses arising from GST implementation. States will be compensated for 100% of their losses in the first three years, 75% in the fourth year and 50% in the fifth year. Further, there will be an additional 1% non-vatable tax that manufacturing states like Maharashtra, Tamil Nadu and Gujarat can impose for two years (to allay fears over loss of revenue to the consuming states).

- **Formation of a GST council** - formation of a GST council to fix of rate structure, set place of supply rules, and decide on arbitration guidelines (with every decision taken by a majority of not less than ¾ of the weighted votes of members present & voting). The proposed GST Council will have the Union Finance Minister as its Chairman and comprise two-thirds of members from states and one-third from the Centre. The decision of GST Council will have to be approved by a three-fourths majority. The GST will subsume excise, service tax, state VAT, entry tax, octroi and other state levies.

- **The reform** of the indirect taxation was initiated by the Kelkar Committee initially in 2003.

- However there is major challenge for the government to pass this bill in Rajya Sabha, where govt. is not having majority.

4 Current tax structure is inefficient

- The current tax structure in India is plagued with multi-layered taxes levied by the central and state governments, in addition to local authorities.

- Tax paid under one statute cannot be offset under others leading to inefficiencies.
- Classification issues, varying rates and procedural hassles add to the complexity.
- Tax evasion is widely prevalent in the unorganized sector, creating an imbalance.
- Tax optimization rather than economic factors drive distribution and logistics network and results in sub-scale operations.

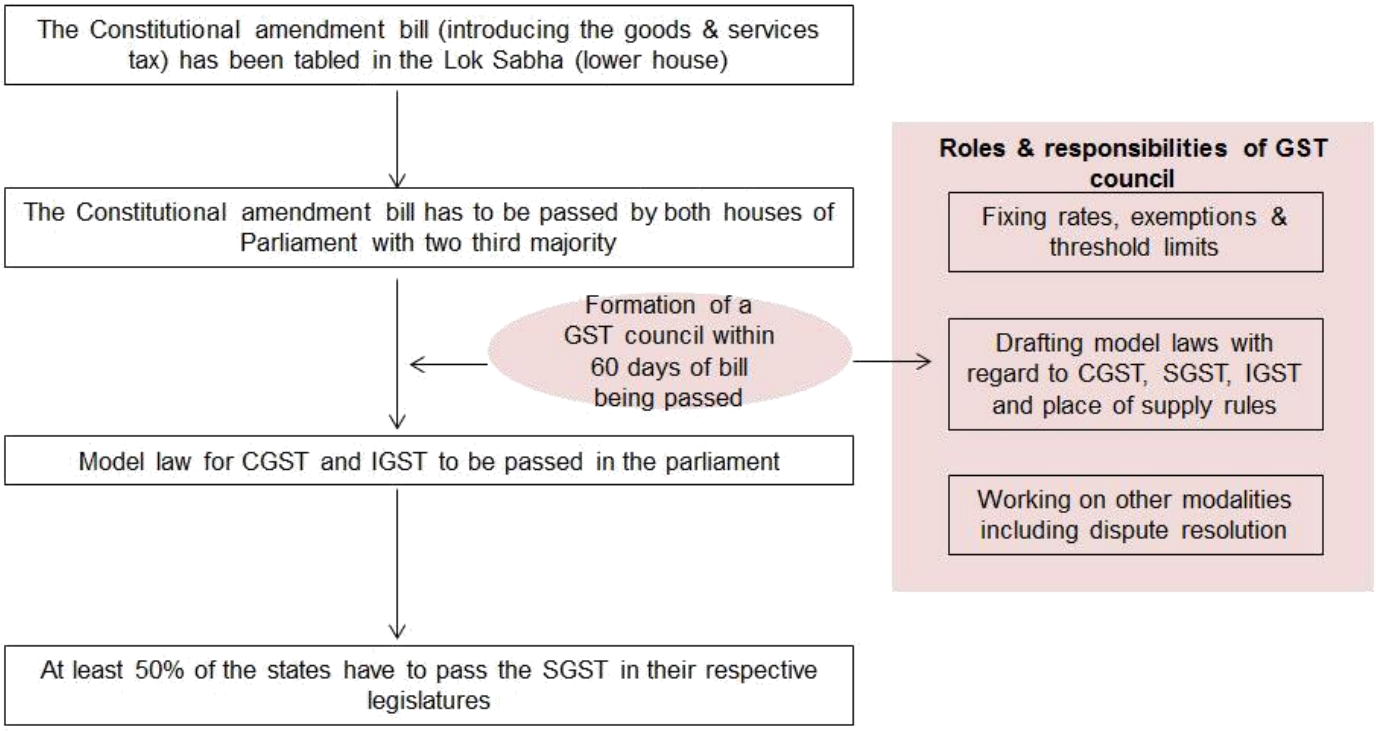
5 Goods & Services tax (GST) to be a game-changer in several respects

- GST would address the issues with current regulation and simplify the tax structure.
- Uniform rates across states, availability of input credits through the value chain and simplified procedures are the key advantages of GST.
- Better compliance should address instances of tax evasion by expanding the base.
- Global experience and successful VAT implementation of 2005 also shows that simplified structure positively contribute to economic growth.
- GST should reduce legal hassles, allow for a new supply chain model based on economies of scale, and improve competitiveness
- key beneficiaries would be segments like consumer staples and durables,automobiles, logistics and media

6 Functions of the council

Formation –
The President will constitute a GST council within 60 days of the passing of the constitutional amendment bill

Members -
Finance Minister (Chairperson)
Minister of State in charge of revenue or finance and Minister in charge of Finance/Taxation or any other minister nominated by each state government
Members to choose a Vice-Chairperson
Half of total number of members of GST council shall constitute a quorum



Roles & responsibilities -

- Rates
  - including power to raise rates for a specified period, to raise additional resources during natural calamity or a disaster
  - Recommend the data on which GST is to be levied on petroleum products
- Model goods & services tax laws including the apportionment of IGST levy
- Place of supply rules
- Exemption list
- Threshold limits
- May also recommend the level of compensation to the states
- Decide on the modalities to resolve disputes arising out of its recommendations

Decision making

- By voting- by a majority of not less than 3/4 of weighted votes of members present & voting
  - votes of central government shall have a weightage of 1/3 of total votes cast
  - votes of all state governments taken together shall have a weightage of 2/3 of total votes cast

Uncertainties prevail on several fronts

- The suspense remains on the Revenue Neutral Rate, which is the key.

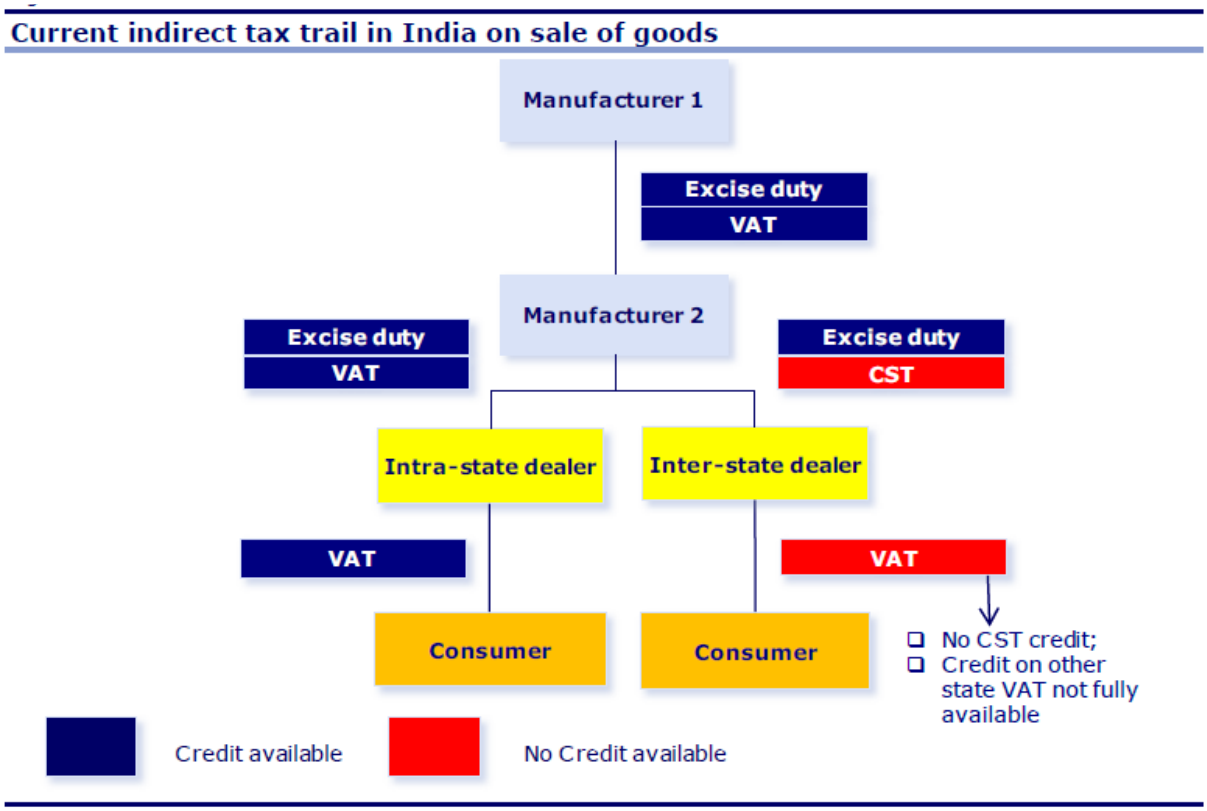
- While the government is determined to roll-out in FY17, several steps are still pending and a further delay cannot not be ruled-out, in our view.
- Issues like current exemptions, expansion of services etc. also need to be resolved.

- Successful GST also requires good execution and there is limited information on the level of preparedness, though, industry participants view this as a lesser concern.

7 Current tax structure is inefficient

The current tax structure in India is plagued with multi-layered taxes levied by the central and state governments, in addition to local authorities. Tax paid under one statute cannot be offset under others leading to inefficiencies. Classification issues,

varying rates and procedural hassles add to the complexity. Tax evasion is widely prevalent in the unorganized sector, creating an imbalance. Tax optimization rather than economic factors drive distribution and logistics network and results in sub-scale operations.

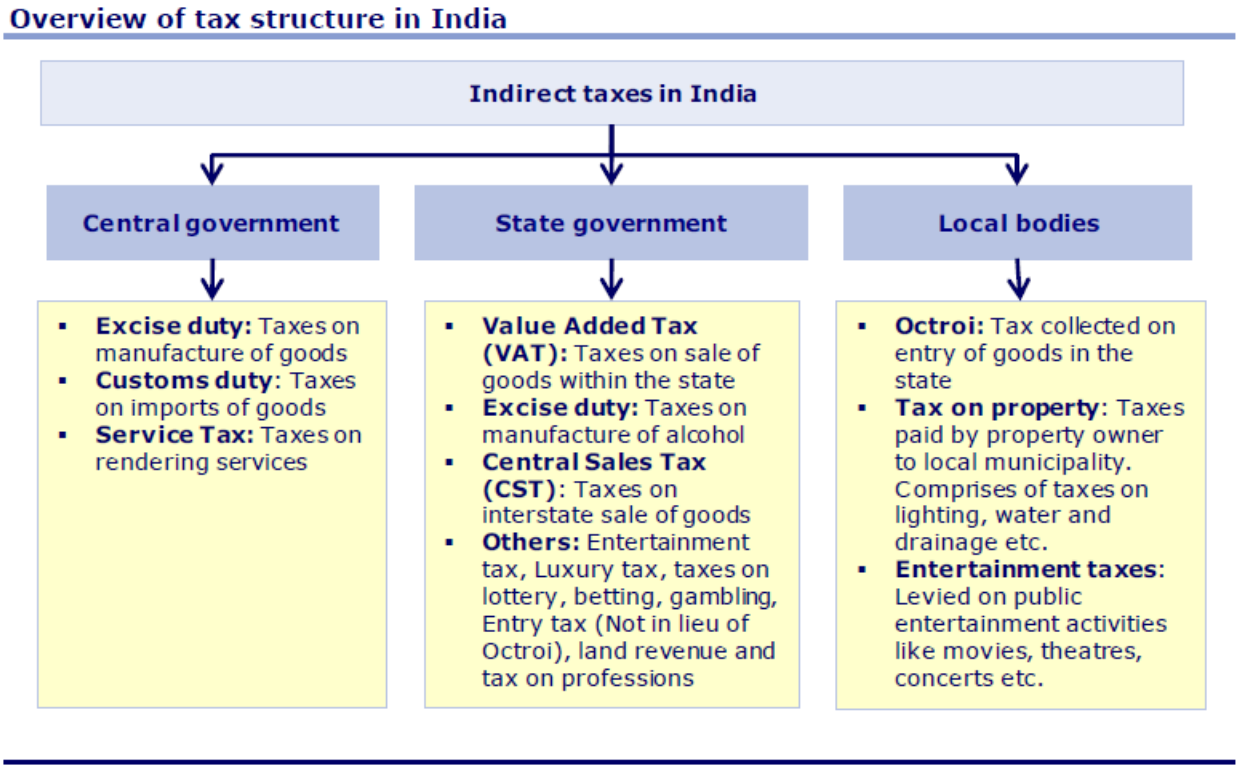


Note: Excise duty is levied by central government while VAT is levied by states

8 Complex tax structure

The Indian tax structure is a complex one with multi-layered taxes which are levied by central and state governments, in addition to local authorities. The central government levies taxes like excise duty on manufactured goods, custom duty on imported goods, service tax on rendering of services etc. The state government on the other hand collects taxes like Value Added Tax (VAT) on intra-state sale of goods, Central Sales Tax (CST) on inter-state sale, excise duty on alcohol, entry tax, luxury tax etc. In addition, there are taxes like entertainment tax, property tax etc. which are collected by local authorities.

A company (or for that matter, any other tax payer) which has a pan India presence has to comply with several regulations which come under the purview of central, state or local governments. Since there is lack of uniformity, the entire tax compliance process is fairly cumbersome and time-consuming for the tax payers.



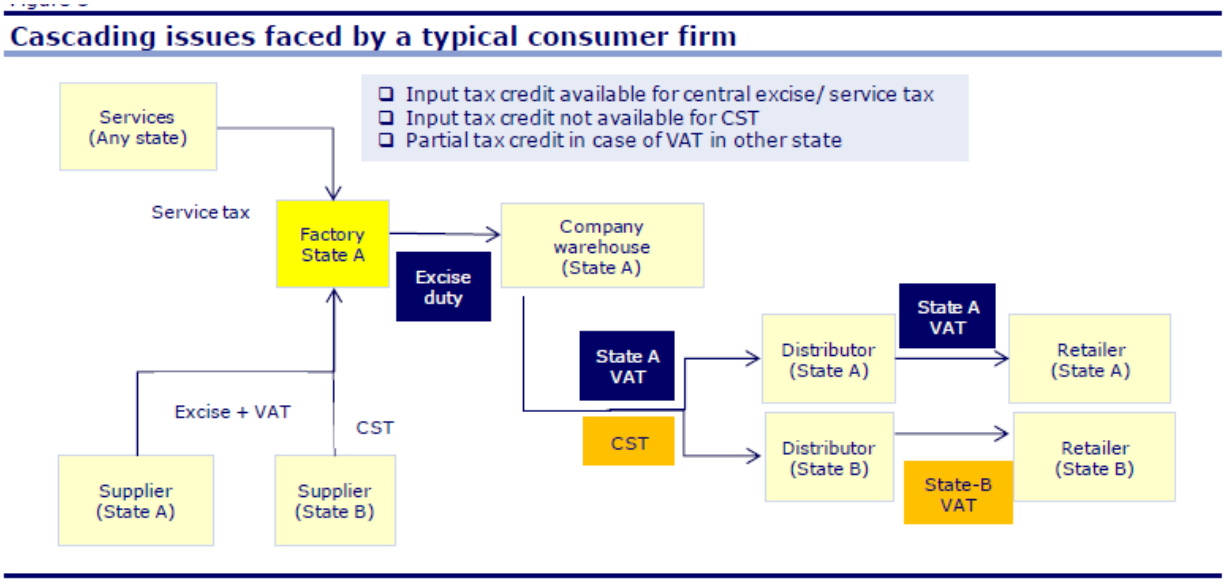
9 Cascading impact leading to higher costs

The taxes imposed by central, state and local governments not only create administrative hassle but also increases costs in the value chain. As a result, the final price for the end consumer also goes up. This is because taxes paid on goods (or services, in some cases) under one statute are not available for set-off against the other statute i.e. input credits are generally available for set-off only under a particular statute. Following are some of the examples of cascading effects:

- Central excise duty (tax on production) paid on the manufacture of goods to the central government is not available as a set-off against Value Added Tax (VAT) levied by the state government.
- The input credits related to state VAT are not fully available in case of inter-state sale.
- For services which are subject to service tax, VAT paid on any inputs or capital assets are not available for a set-off against service tax liability.
- Inter-state sales attract Central Sales Tax (CST) which cannot be adjusted against any other tax liability.

In addition to above, due to multi-point taxes in the entire value chain along with non-availability of tax credits across statutes, there is a cascading effect or 'tax on tax' which further increases the costs. Following are some of the examples of these:

- State VAT in several cases is paid on the value which is inclusive of the central excise duty.
- CST paid in case of inter-state sales is included in the value while computing subsequent state VAT liability resulting in tax on tax.



10 Lack of full input credit mechanism

In addition to the cascading effect, there are issues with respect to the lack of input credit mechanism, particularly due to the fact that different tax statutes work independently. This makes the entire structure counter-productive and promotes tax evasion. An interesting example of this is the retail sector which comes under the ambit of VAT which is charged by state governments. Lease rental is a key cost head for a retailer which is subject to service tax levied by the central government (the Constitution of India provides that states cannot levy taxes on services). Since there are different statutes governing the taxation of inputs and outputs, organized retailers are unable to claim the credit for the key inputs which adds to the overall costs. Similarly, no credit is available with respect to the central excise duty paid by the manufacturers on the products which are sold to final consumers by these retailers.

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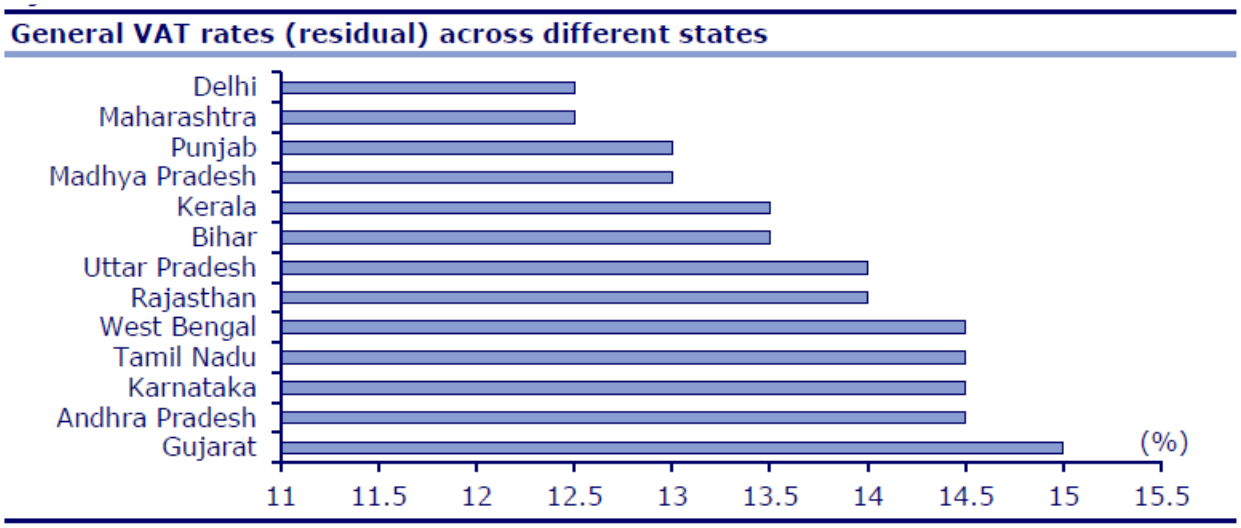
12 Issues of varying rates

While the VAT was implemented with an objective of uniform taxation across the value chain, today the rates vary in several cases across states. In 2005 for example, VAT was implemented with a uniform rate of 12.5% for most products but over the years, several states have increased these and today, the same ranges from 12.5-15%. The lack of uniformity in rates breaches the motive behind VAT implementation and results in differential pricing for goods and services across states (or results in differential margins for the producers with same pricing). Our interactions with the industry participants even indicate that there are instances of diversion from states with lower taxes to the one that have higher taxes resulting in distortions



13 Effect of GST on supply chain

13.1 Scale advantage

The consumer industry would be able to consolidate its manufacturing and distribution layout which is currently scattered on tax optimisation principle. One market' would also allow for free vehicular movement across the country and reduce turnaround time resulting in fuel savings. There is a potential to save costs at several level in the entire supply chain and the investment in working capital should also come off. While default to quantify but we believe that there would be meaningful savings from these changes

13.2 Re-alignment of sourcing and manufacturing footprint

In order to promote investments and create jobs in backward areas, Indian government notified certain areas where the investments by manufacturing sector qualified for fiscal incentives. The key states which saw significant investments include Himachal Pradesh and Uttaranchal in the past decade. In most cases, the company setting up a unit in the notified state avails two benefits: a) 100% income tax exemption for first five years and 30% exemption for the next five years; b) No excise duty (tax on production) payment for a period of ten years on the profits from the unit.
In order to further optimize tax incidence, the industry even brought its key supplier source closer to own units, in several instances. Hence, the current manufacturing and sourcing layout for several of the companies is governed by tax optimization creating a sub-optimal network.

GST would dilute the tax arbitrage and hence, there is a case for the industry to realign its manufacturing footprint and optimize its costs. This also gains importance in the context of expiration of existing fiscal benefits which is imminent and further makes a case for the players to realign manufacturing layout. As a result, the currently skewed manufacture footprint has a potential of becoming more balanced which would bring about efficiency in lower manufacturing and logistic costs. There is also a potential to re-align supplier source and consolidate the same which would also help in realizing higher economies of scale leading to cost advantages. This is because, currently, supplier factories are also located close to end-product units in several cases in order to optimize taxes through an intra-state transaction as against inter-state which causes tax leakages. Under GST, this would change and hence, there is a scope for supplier consolidation and optimizing sourcing network.

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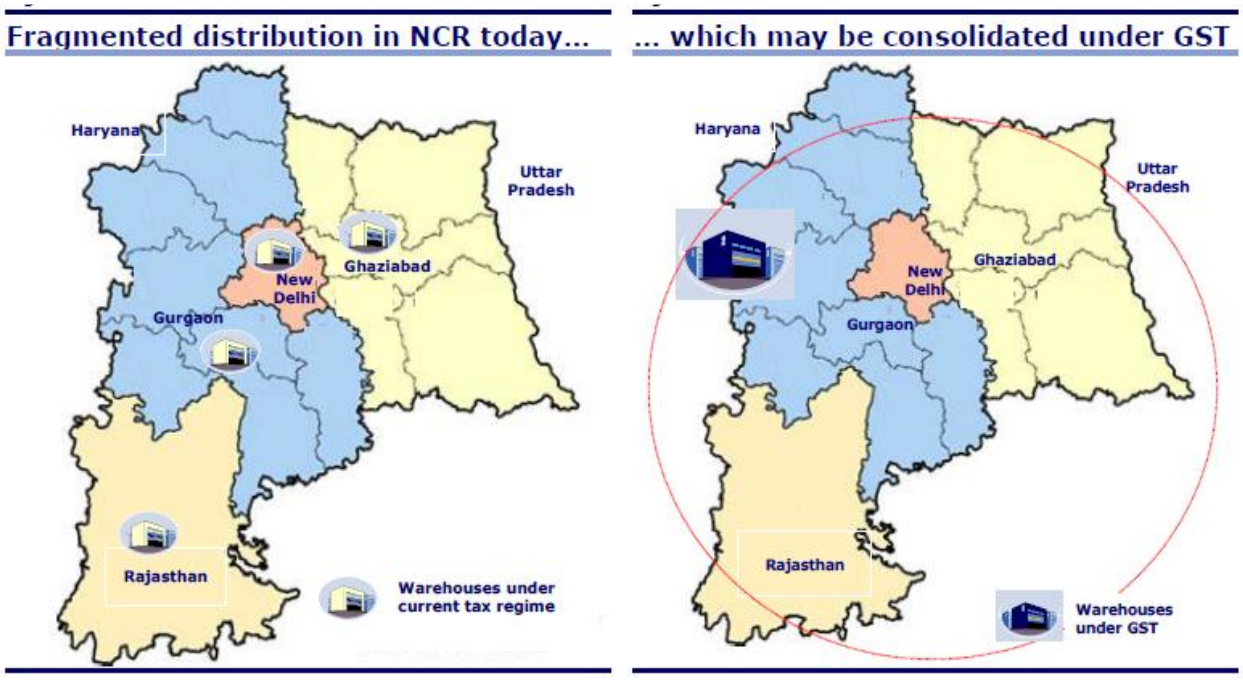
13.9 Hub-and-spoke distribution

In addition to the manufacture and supplier network, the distribution network is also currently geared towards tax optimization. As a result, a consumer company which has presence across the country needs to maintain warehouses across all the states. This is because, in the current tax regime, CST is levied in case of inter-state sales, which adds to the overall costs and results in cascading effect. Hence, the warehouses or distribution points are created based on the political boundaries of the state.

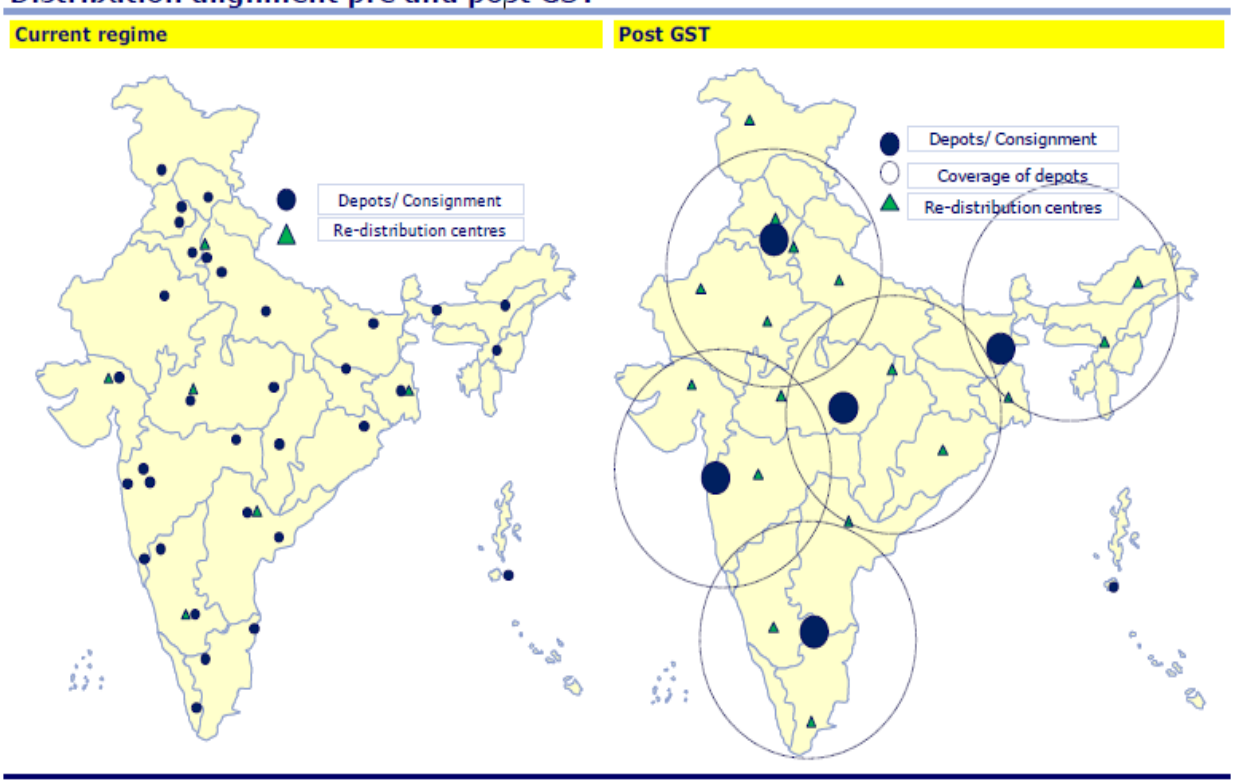
I present the example of The National Capital Region which encompasses New Delhi along with the urban areas in the surrounding neighboring states of Haryana, Uttar Pradesh and Rajasthan. Most consumer firms today need to have separate distribution points in the region due to political boundaries but this would likely change under GST regime.



Pan India based companies could operate out of fewer warehouses which would be dependent on the economic rationale rather than on the principle of tax optimization. While it is too early to comment upon the final structure but there is even a potential to have employ a hub-and-spoke model in case of distribution. Hence, a consumer firm may have a centralized model whereby they may have a few mega warehouses spread across the four or five regions, which in turn could feed into smaller warehouses, which

may be closer to the source of consumption. These would help the industry to derive economies of scale and lower costs. Bigger and fewer depots would also result in lower working capital requirement. Larger warehouses may also benefit from technological sophistication through better planning mechanism and warehousing systems, which are less feasible in case of smaller and scattered warehouses.

Distribution alignment pre and post GST



Source: Marico

13.10 Efficient logistics

With the consolidation of warehouses and re-alignment of manufacturing units, the entire transportation logistics would also change. Bigger warehouses would increase the demand for larger vehicles to move around goods across the country. Larger vehicles and fewer handling points would further add to cost savings. This would also help in differentiating players from each other on their ability to create an optimum network which is less relevant today as the overall network for pan India firms mirror each other's as these have been drawn keeping the tax considerations.

An important change under GST would be a significant improvement in the vehicular movement under the 'one market' concept. Currently, the trucks have to face multiple check-posts and need to comply with various requirements during transit including entry tax, octroi etc. Complying with several documentation requirements of different states adds to overall costs and delays. Logistics firm, typically, Indian trucks spend 20-25% of time on unproductive activities at the time of state border crossing which results in lower utilization and higher cost of fuel and manpower. The uniform tax structure and 'one

market' concept should allow for a border-less India and hence, state boundaries will no longer be the parameter for deciding routes, a key change from the existing practice.

14 Mumbai-Delhi GST truck route

Freight costs could go down by up to 15% under GST

Study of 1400km+ long Mumbai-Delhi freight route along NH-8 in order to gauge implications of GST implementation on the inter-state freight transport. The route passes through the states of Maharashtra, Gujarat, Rajasthan, Haryana and New Delhi (4 state border crossings) and 20 tolling stations.

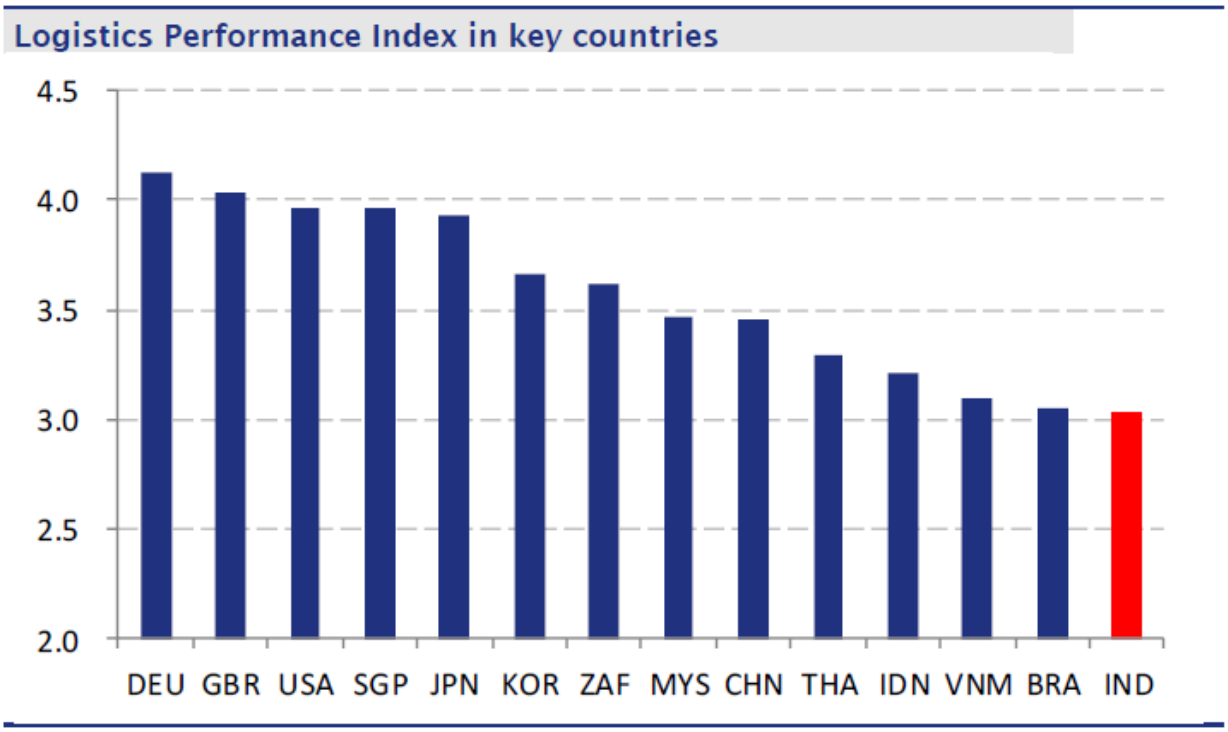
Exhibit 3. Mumbai – Delhi route

Source: JM Financial

GST would mean lower stoppages for freight operators: The current Mumbai-Delhi route passes through four state borders and has 20 toll posts on the way. The inter-state check points are tasked with reconciliation of central versus state sales taxes, checking for road permits and collecting of other local taxes, etc. Introduction of GST which subsumes entry taxes (along with a GST network which will ensure seamless information flow across states about consignments) could be a great improvement for the freight industry over the current system of taxes given the inherent inefficiencies with taxes based on crossing of administrative boundaries.

Rationalization of rules, electronic tolls required for full benefits of GST: Even as the universal tax will eliminate the need for reconciliation and end the discretion of tax officials in many cases, in order to realize the potential gains fully, a lot of digitization and automation of records along with electronic tolling is required. These will be instrumental in lowering waiting times and reducing stoppages during transit.

Lower stoppages can mean up to 30% higher distances covered a day: As a result of lower stoppages at the state borders in the GST regime, the vehicle could run a total of 400km+/day compared to 300km/day at present (compared to 450km/day in Brazil and 800km/day in the United States). The Mumbai-Delhi route which typically takes a total of 6-days to cover can see the total transit time go down by up to 30% if the GST is implemented and intermediate check-posts dismantled.



Source: World Bank Logistics Performance Index,

Efficient freight transport can improve fuel efficiency for freight operators: A higher running time and lower stoppages can reduce fuel costs for freight operators on account of better fuel efficiency. Fuel consumption which forms the biggest input cost for the freight operators (50%) can actually see efficiency gains of up to 15% on account of better on-road mileage which may rise from the current 3km/lt to 3.5Km/lt.

Freight costs - Pre and Post GST scenarios for Freight operator			
Metric	Pre-GST	Post-GST	Comment
Distance	1,419	1,419	Mumbai-Delhi along NH-8
Mileage - Km/day	300	400	Faster speeds on longer running time without delays. Electronic tolling also required for this.
Running Time (days)	4.7	3.5	
Stoppages/ Other delays (days)	1.3	0.95	Lower stoppages and delays if discretionary ability of check posts officers reduced and entry taxes brought under GST
Total Time (days)	6.0	4.5	Up to 25% saving on total transit time

GST can lead to lower freight costs: The efficiency gains on account of a) lower fuel costs on account of better mileage due to lower stoppages b) higher capacity utilization as transit time goes down c) lower maintenance and other expenditure can lead to lower freight costs. India is already amongst the highest in the world in terms of freight costs for road transport and lower freight costs coupled with faster transit could be a big boost to the overall economic efficiency.

Efficient logistics sector would add to India's export competitiveness: Many industries face loss of business on account of inability to deliver in industries that depend critically on prompt business. Lower transit times on account of a sound GST implementation could add to export competitiveness of Indian exporters in addition to indirect gains on account of need to maintain lower inventories as the supply chains get leaner.

Input tax credit to address cascading issues

While the current tax structure in most cases also provides for a set-off, the issue is, credits are available only if it is under the same statute. This would get resolved under the new regime and the value addition would be the key basis for taxing a good (or a service). In addition, taxes would not form part of the base while computing further liability in the value chain eliminating the cascading effect.

Illustration on working of GST							
	Purchase	Value addition	Sale value	Rate of GST	GST on output	Input tax credit	Net GST
Manufacturer	100	30	130	20%	26	20	6
Wholesaler	130	20	150	20%	30	26	4
Retailer	150	10	160	20%	32	30	2
			Total				12

The new GST structure would therefore provide for set-offs across the platform, which is not possible under the current regime.

The below table explains the cascading effect

	Present tax system	Goods and services tax
Tax rates and profit margins		
Central Excise Duty	12.4	

VAT	12.5	
CGST+SGST (goods)		20
CGST+SGST (services)		—
Profit margin	10	10
Producer		
Cost of production	10,000	10,000
Producer's price (incl. profit margin)	11,000	11,000
Central Excise Duty	1,360	—
VAT	1,545	—
CGST+SGST	—	2,200
Total price	13,905	13,200
Wholesaler		
Cost of goods to wholesaler	13,905	13,200
Wholesaler's price (incl. profit margin)	15,295	14,520
VAT	1,912	—
Less: Input VAT	1,545	
CGST+SGST	—	2,904
Less: Input CGST+SGST	—	2,200
Total price	15,662	15,224
Retailer		
Cost of goods to retailer	15,662	15,224
Retailer's price (incl. profit margin)	17,228	16,746
VAT	2,154	—
Less: Input VAT	1,912	
CGST+SGST (goods and services)	—	3,349
Less: Input CGST+SGST	—	2,904
Total price to consumer	**17,470**	**17,192**
Total tax component	**3,513**	**3,349**
Centre-State		
Central taxes	1,360	1,675
State taxes	2,154	1,675
Effective tax rate	**20.4**	**20**

Above Example also shows that states are likely to lose out on some revenues under GST

15 Companies: Benefits from Improvement In Supply-Chain Efficiencies

The corporate sector will benefit from reduction in warehouse costs, improve supply-chain efficiencies and get input tax credits, which are currently not available on central

sales tax and other local taxes. In certain sectors, companies will also benefit from reduction in overall taxes and organized sector could benefit as unorganized sector will come under tax net.

15.1 Godrej Consumer Products

- GST rate of ~23-24% would be tax neutral for GCPL and most other FMCG companies.

- Company indicated that it will benefit from lower warehouse cost, more efficient supply-chain planning and inventory reduction in general.

- Company tracks most of its secondary (sales from distributors to retailers) through IT systems and is completely geared up to switch to GST regime as and when it comes in.

- Hair color segment is quite fragmented with top-5 players cornering around 2/3rd of the market. Rest of the market is very fragmented and unorganized. Post the GST implementation, company expects a shift toward organized players in the hair color segment as unorganized players will come under tax net.

- Since both soap and household insecticides categories are more organized, no meaningful gains for the big players.

- Increase in service tax rate will not impact the company materially as service tax is very low proportion of company's indirect taxes
- Marico

- On the supply-chain front, there may be some realignment in terms of rationalizing the depots and distribution structure which may have favorable cost implications.

15.2 Mahindra & Mahindra

- Combined GST rate will be in the vicinity of 20-24% while service tax rate is likely to be ~16%. Since GST is a consumption-based tax, manufacturing states may lose out to consuming states. The net importing state would get more revenue by way of GST.

- Companies may consolidate warehouses across India and may keep 4-5 large warehouses rather than keeping warehouses in each state which was designed to save CST.

- Auto sector would benefit from reduction in duties on large SUVs and cars as the GST rate is likely to be lower than the present excise + VAT rate. Tractors may

be taxed at lower rate in GST.

- The legal costs and tax compliance cost will come down for the manufacturing companies while tax compliance cost may go up for service companies.

15.3 Transport Corporation Of India

- GST will rationalize taxes on production, distribution and inventory management. Company might consolidate warehouses. Shift towards hub and spoke model and multi modal transport will increase.

- Demand for large warehouses will increases which will benefit the company as it also manages warehouse infrastructure for corporates. So warehouse management could emerge as a potential area for TCI.

- Truck stoppage time at check posts may reduce as paperwork due to multiple taxes will reduce significantly as local taxes will be subsumed under GST. This will improve truck utilization.

- Smaller transport operators may come under GST net due to better tax compliance. Although operators with less than 25 mn turnover will be kept out of GST net. Company expects share of organized sector will increase if GST is implemented.

- Customers will also look for most efficient solutions for their logistic requirements which the larger organized players will be better placed to deliver.

16 Sector-wise Impact Analysis

Consumer sector and Logistics sector would be the key beneficiaries

16.1 Logistics

The GST will bring down the multiple taxes imposed by the central government and states and will lead to the creation of a unified market, which would facilitate seamless movement of goods across states and reduce the transaction cost of businesses. Logistics costs,
which is ~13-14% of GDP in India will gradually come down towards the international average of ~8-9%. As per logistic companies such as Transport Corporation of India, GST will: i) rationalize the impact of taxes on Production, Distribution and inventory management ii) allow consolidation of warehouses and facilitate the move towards the Hub and spoke model iii) allow multi-modal movement between hubs. Thus, organized and large transport operators such as Container Corporation of India (N) should benefit from the same. Other operators in the logistics segment include Gateway Distriparks, BlueDart and Transport Corporation of India, amongst others.

16.2 Consumer

The major benefit of GST from the consumer sector's point of view is inter-state transactions becoming tax neutral, thus creating one 'common Indian market' in the country: As per the draft regulations on GST, the central government would levy an integrated Goods and Services Tax which would be an aggregate of CGST (Central GST which subsumes excise, service tax) plus SGST (State GST which subsumes VAT and other state taxes) and the seller (within the state or inter-state) will pay the amount after adjusting the available credit from taxes paid on inputs. An importing dealer, in case of an inter-state sale, will also be able to claim credit for the GST charged to him while discharging his GST liability. This would make inter-state sales tax-neutral thus creating one common Indian market.

The benefits of GST, in a nut-shell, would be: 1) Creation of a level-playing field between regional and national players. 2) Increased operational efficiencies through rationalization of warehouses and transportation network. 3) Elimination of cascading effect of taxes and ease of availability of input-tax set-off (including service tax). Note, however, that the above conclusions are based on draft GST guidelines and could be subject to change based on the final guidelines.

Regional and national players to operate on an equal platform: As per the draft regulations, GST introduction would ensure uniform tax rates across the country and would tax only the value addition on goods and services. This implies tax liability on regional and national players is expected to be the same under GST regime. Secondly, evasion of taxes gets dis-incentivised under the GST regime as evasion would be possible only if the same is all pervasive across the entire value chain. In case even a single part of the chain comes under the tax net, the benefit of tax-evasion would diminish significantly. Hence, as the tax base gets broadened, most of the unorganized players are also expected to come under the tax net, which would help reduce the price-arbitrage that such players currently enjoy.

Cascading effect of taxes to be largely negated; Availability of service tax set-off would help FMCG companies to be tax-neutral even at higher GST rates: GST is expected to eliminate cascading effect of taxes as in effect it levies tax only on the value- addition unlike the current regime where cascading effect of taxes is prevalent, e.g. VAT/sales tax are levied on excise duty component as well. Secondly, as GST would allow a set-off for service tax paid (not available in the current regime except for services that are directly related to the manufacturing process), it implies that a tax-neutral situation would be possible for FMCG companies, even if the revenue-neutral rate is set at a higher level by the government. This is so on account of the large amount of advertisement spends that FMCG companies typically incur.

Inclusion of tobacco in the GST framework would help establish a more uniform taxation-structure across country: As per GST draft regulations, tobacco would be included as a part of the GST regime though the Central Government would continue to levy excise duty on tobacco products over and above GST without input tax credit. Inclusion of tobacco in GST, in our view, is expected to create uniformity in state-taxes charged on cigarettes as opposed to the current regime where each states are allowed to change the applicable VAT rate on their own. This would reduce complexities, ease administrative burden and help in pricing-uniformity to a great extent, in our view.

16.3 Automobile

Currently, a three-tier GST rate structure is proposed 12% for essential goods,16% for services and 20% for goods, which could result in double-digit reduction in tax costs for the mid-size and luxury passenger vehicle segments especially. Such benefit could be useful for OEM's to either improve profitability or increase competitiveness by passing on the benefit to consumers in form of price reductions. **M&M (Scorpio, Xylo, HT, Bolero Plus,**
Xuv50), Maruti Suzuki (Ertiga) and Tata Motors (Safari, Sumo Grande) pays ~36% overall tax on large SUVs, which will likely reduce to 20-24%.

In percentage	Current Levies			Proposed GST rate			
Segment	Central Excise	VAT	Total	CGST	SGST	Total	Difference
Small passenger cars (eg < 1200 cc petrol and < 4000 mm)	8.0	12.5	20.5	10.0	10.0	20.0	-0.5
Mid-size/luxury passenger cars (eg > 1500 cc)	24.0	12.5	36.5	10.0	10.0	20.0	-16.5
LCVs	8.0	12.5	20.5	10.0	10.0	20.0	-0.5
M&HCVs	8.0	12.5	20.5	10.0	10.0	20.0	-0.5
Tractors	Nil	5.0	5.0	Nil	6.0	6.0	1.0

Source: Ministry of Finance,

GST is expected to reduce the on road price of vehicles by removing the cascading effect of taxes especially for automotive distributors, which attracts high rates of CENVAT duties as well as VAT at State level, in addition to other levies such as NCCD, Auto cess, entry taxes, octroi, registration charges and road taxes. Automobile exports are also likely to benefit, as embedded taxes in India's export prices will be eliminated.

Under the GST regime, there will be no embedded tax costs on inter-state movement of goods (CST or entry taxes) and tax would be charged to the consumer ultimately. However, the bill proposes an additional tax not exceeding 1% on inter-state trade in goods, to be levied and collected by the Centre to compensate the states for two years, or as recommended by the GST Council, for losses resulting from implementing the GST. All automobile companies would have greater flexibility to re-design their supply chains and thus, optimize logistics costs. Since their vendors are also likely to benefit from the transition, companies could negotiate with their vendors to pass on those benefits in terms of input prices.

Under GST, the government is proposing to exempt manufacturers with turnover less than Rs. 1 mn under GST. Presently small enterprises with a turnover of less than Rs. 15 mn are exempt from central excise duty and enterprises with less than Rs. 1 mn are exempt from paying VAT. As the threshold limit for small enterprises has been reduced, it will increase the compliance cost of small enterprises and make them uncompetitive. This will benefit to those Auto ancillaries companies, which have high threat from unorganized market **like Exide, SKF and Lumax Auto technology.**

16.4 BFSI

The implementation of the Goods and Services Tax (GST) on banking and financial sector will have minimal impact on consumers. The new tax would only be imposed on fees in every banking transaction and not on the amount of the transaction. Cost of

banking and insurance will increase with rise in tax rate from 12.36% to more than 20.00%. However, the impact on BFSI sector will be little as most of the activities carried out are exempted except for transactions that are based on fee only.

The implementation of the GST would not affect the sector outright but it will impact loan growth. GST will lift GDP growth and increase the tax revenues. According to a study by National Council of Applied Economic Research
(NCAER), a complete implementation of the GST could lift GDP growth by 0.9-1.7% for all future years. GST will also help in reducing taxation and filing costs and boost business profitability which will help to attract more investments in the economy and will result into higher GDP growth. Higher investments will lead to higher credit demand from the banks.

16.5 Capital Goods

India has set an ambitious target of increasing the contribution of manufacturing output to 25% of GDP by 2025, from 16% currently. Amongst other reasons, India's manufacturing sector has not grown substantially on account of complex tax structure at central and state levels. Introduction of GST can give big fillip to capital goods sector by simplifying the tax structure of the country.

Companies in capital goods sector are engaged in EPC (which pay service tax) as well as manufacturing (which pay excise duty) activity. A comprehensive tax like GST will combine central and state taxes into a single tax structure where tax credit will be available at each stage of production and final sale so that cascading effect of tax can be avoided. This will help companies in becoming more cost competitive against foreign import and improve their profitability. Cost competiveness of the capital goods will also make their products competitive for export to other market.

In capital goods sector indirect tax range in wider, depending upon the business operations of the compnay (epc, manufacturing and their mix), it varies from 29-35% and any GST below this range should be helpful for competitiveness of the industry.

16.6 Cement

Cement companies have manufacturing plants in many states and sale of cement from plant is distributed in home state and nearby states also Currently different tax rates across the states hinder smooth flow of cement across regions which also affect cement prices. Implementation of uniform tax like GST is likely to disentangle this kind of distortion in the cement market. Also compliance cost of cement companies will be substantially lowered on account of uniform tax structure. In cement sector indirect taxes range from 27-32% and GST in this range or below should be beneficial to the sector.

Real estate sector is currently kept out of GST which will have some distortion on the supply chains of cement companies despite introduction of GST.

Tax credit on raw materials like coal, pet coke, electricity etc. under GST regime will be positive for the sector

16.7 IT

IT hardware and software product players could see some benefit through the rollout of GST as there are multiple taxation on packaged software and hardware products (like CST 10%, VAT at all level 5%, & Service Tax 12.36%).
Under GST there will clear classification of single tax structure, which will bring lot of clarity and some saving along with operational efficiency. However, we do not see any material benefit to India ITES industry.

16.8 Pharma

The key advantage of implementation of GST on pharmaceutical companies would be reduction of multi-stage taxation at state as well as central level. In addition, this would also remove credit anomalies which are present under current tax law and hence would increase profitability of pharmaceutical companies to some extent.
Following are the key aspects to be watched for pharmaceutical companies with respect to GST:

Currently, there is higher excise duty of 12.5% on API (Active Pharmaceutical Ingredient), which are inputs for manufacture of pharma products and lower excise duty of 6% on formulation. This results in accumulation of Cenvat credit which does not get utilized. It is expected that implementation of GST would streamline the excise duty across the products which would reduce accumulation of credit.

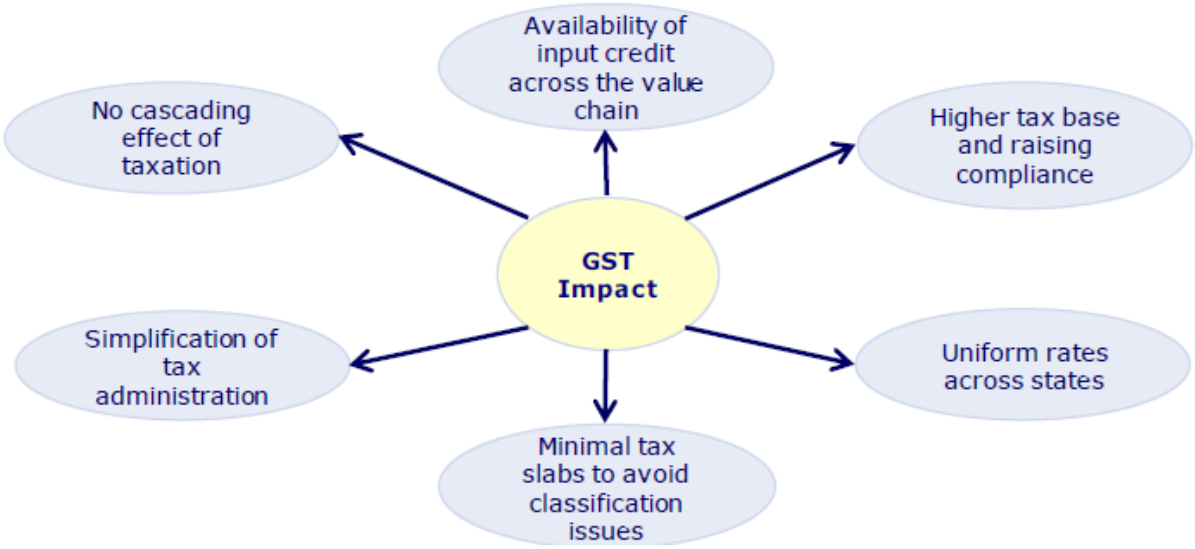
There has been manufacturing zones in which pharma companies are exempt from paying excise duty. We expect clarity on this issue as GST would be implemented at Pan India level.

Implementation of GST is expected to eliminate CST (Central sales Tax) paid on purchases from other states. Currently this cannot be set off against VAT liability of manufacturer/dealer. Implementation of GST would enable to reduce overall tax and hence help in improving profitability to some extent. Thus GST is expected to reduce overall tax paid by pharmaceutical companies and hence positive for the sector. However, we are yet to incorporate in our earning models as we await further clarity on overall tax rate that would be applied as SGST (State GST), CGST (Central GST) and IGST (Interstate GST).

Summary of sector Analysis

Sector Impact of current proposed GST		
Sectors	**Impact**	**Key reasons for arriving at the conclusion**
Consumer Staples, Paints	Positive	Current rates (pre-exemption) already at 20%+; Area-based exemptions could continue; Huge benefits from set-off of service tax on media spend for FMCG businesses.
Pharma	Positive	Positive considering that pharma companies are enjoying area based excise exemptions which are expected to continue
Cement	Positive	Total taxes paid currently are c.26-27% of the sales. Companies would benefit from lower rate of GST and streamlining of supply chain as no tax would be payable on inter-state movement of goods.
Auto	Positive	Current rates (pre-exemption) already at 20%+; Area-based exemptions could continue; Huge benefits from streamlining of supply chain. However on road prices would still vary from city to city on account of difference in registration/RTO taxes.
Auto Ancillary	Positive	Current rates (pre-exemption) already at 20%+; Area-based exemptions could continue; Companies will benefit from inclusion of companies in unorganized sector under new GST regime.
Telecoms	Neutral	Consumer demand may be impacted, but savings on Entry Tax would protect earnings. A lower rate of GST and input tax credits on diesel would be positive.
Media - Broadcasting	Neutral	Not a significant impact because GST, like service tax, can be passed on to the advertisers (who may benefit from input tax credits). Could benefit if Services tax rate is lower than Goods GST
Media - Distribution	Neutral	At present service tax and state entertainment taxes add up to 20-25% of Pay TV ARPU; in any case, these can be passed on to the end customers. Could benefit if Services tax rate is lower than Goods GST
Industrials (Manufacturing)	Neutral	Current rates (pre-exemption) already at 20%+; Area-based exemptions could continue; Impact is likely to be minimal (at least in the initial years) as minor savings in freight costs will be offset by higher taxes on services availed
Metals	Neutral	Current rates (pre-exemption) already at 20%+; uniform tax regime across states to facilitate efficiencies in transport of goods and simplify availing of Input Tax Credit
Consumer Durables	Negative	Current VAT rates for cables/wires and pressure cooker/cookware are as low as 5%. If excise benefits for SSIs are not continued, V-Guard can lose significantly
Industrials (Power BTG + T&D)	Negative	Current rates ranging from 15% for BTG (lower due to mega power exemptions), to 20% for T&D; However since value of services is high where tax incidence is doubling from 12.5% to 25%, there is negative impact.

17 Successful GST roll-out would benefit government, industry and consumers



Appendix : Tax Structure in India

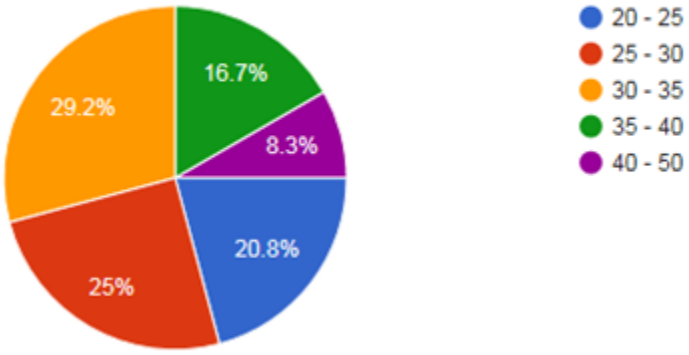
Taxes in India

Name	Base Legislation	Particulars
Central taxes		
Customs Duty	Customs Act, 1962 and Customs Tariff Act, 1975	Customs duty is a duty or tax on import of goods in India or export of goods from India.
Central Excise Duty	Central Excise Act, 1944 and Central Excise Tariff Act, 1985	Excise duty is charged on goods which are manufactured or produced in India. It is collected at the time of removal of goods from the factory.
Service Tax	Finance Act, 1994 and Rules on Service Tax	Service tax is a tax on services provided in India.
State/ local taxes		
Value Added Tax	Each state has its own Act	VAT is taxation on intra-state sale of goods. With VAT payable only on incremental value created in the chain, It prevents cascading of taxes.
Central Sales Tax	Central Sales Tax Act, 1956	In respect of inter-state sale of goods the sales tax is levied under provisions of Central Sales Tax (CST), 1956. The tax is levied by the central government but collected by the respective states.
Entry Tax	Each state has its own Act	Tax is levied and collected on entry of goods into a local area for consumption, use or sale therein. A state may choose not to impose such tax.
Entertainment Tax	Each state has its own Act	Entertainment tax is levied in respect of admission to public entertainments which includes movies, amusement parks, sporting events, concerts etc). A state may choose not to impose such tax.
Luxury Tax	Each state has its own Act	Tax on tariff charged by the luxury hotels. A state may choose not to impose such tax.
Local Body Tax	Maharashtra Municipal Corporation Act, 1949	LBT is another name of Octroi and it is type of entry tax at corporation level (municipality level) for consumption, use or sale therein

18 Survey

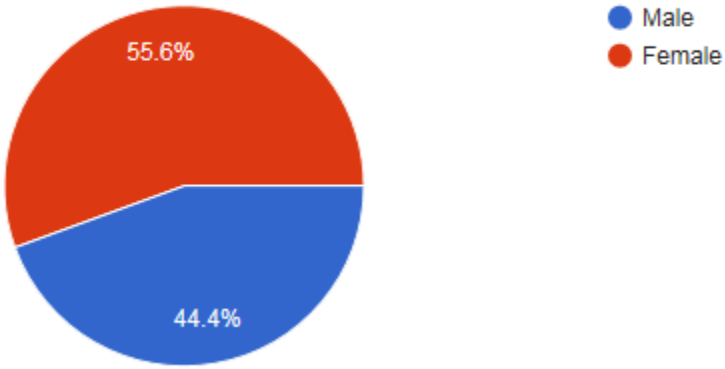
612 people took part in the survey, which was conducted on Organic farm products. The Survey was conducted through Google forms, hence the respondents use their computer on daily basis.

Age Group

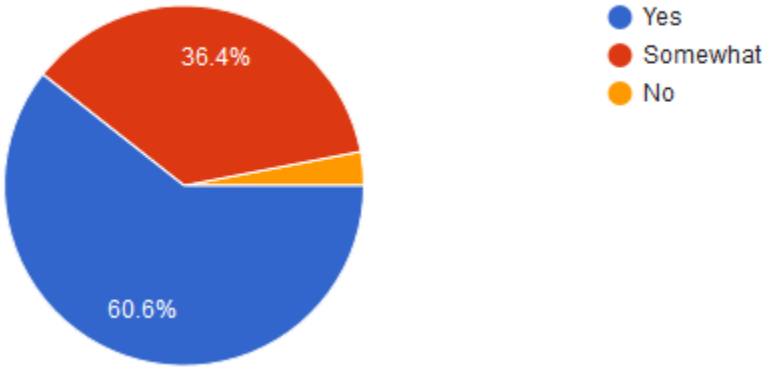


A well diversified group of respondents

Gender

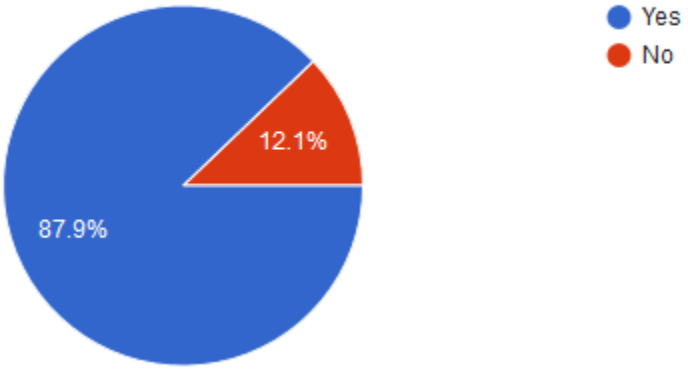


Do you know the difference between the Organic farm product and Inorganic farm product?

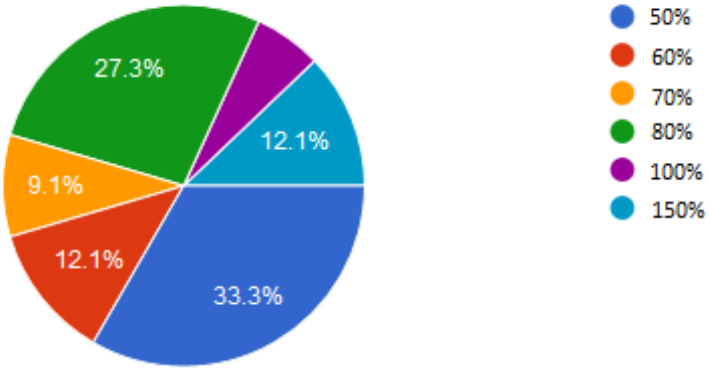


Only 3% people believe that they are **not** aware of the difference between organic and in organic.

Would you like to buy Organic farm product instead of inorganic farm product, if it is delivered at your doorstep?



How much % more you are willing to pay more for an organic farm product?



The weighted average of the percentage comes out to be **77.14%.**

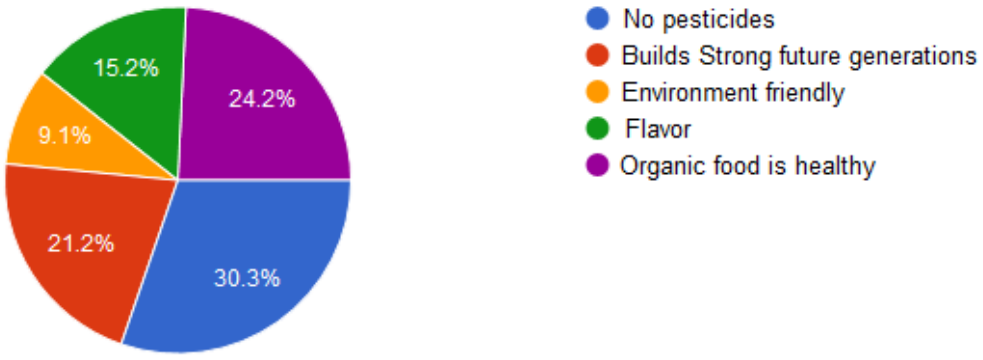
So an average Delhi consumer is willing to pay **77.14%** more for an organic farm product

	
http://www.organicgarden.co.in/index.php/mumbai/fruits.html	http://www.askmegrocery.com/pla/

18.1.1 Why Buy Organic?

Consumers purchase organic foods for many different reasons. Many want to buy food products that are free of chemical pesticides or grown without conventional fertilizers. Some simply like to try new and different products. Product taste, concerns for the environment and the desire to avoid foods from genetically engineered organisms are among the many other reasons some consumers prefer to buy organic food products. In 2012 it was estimated that over 60 per cent of consumers bought some organic products. Approximately five per cent of consumers are considered to be core organic consumers who buy up to 50 per cent of all organic food.

Why would you buy Organic farm products, Because ?



54.5% respondents would buy organic product because they consider Organic products to be **healthy and safe**

19 Global Trends

According to a recently published TechSci Research report, "Global Organic Food Market Forecast & Opportunities, 2020", global organic food market is projected to register a CAGR of over 16% during 2015 - 2020. Growth in the market can be attributed to growing health concerns among consumers and increasing awareness with regard to health benefits of organic food. Other factors driving organic food sales across the globe include increasing income levels, improving standard of living, and government initiatives aimed at encouraging widespread adoption of organic products.

Consumers across the globe are becoming increasingly health conscious, which has resulted in a change in their tastes and preferences. A growing number of consumers are moving towards consumption of organic food in place of conventional food, to avoid adverse health effects caused by chemical preservatives or genetically modified ingredients present in inorganic food. Moreover, the increasing popularity of organic products has significantly expanded the availability of organic food across the globe. With organic food becoming easily accessible, global organic food market is expected to witness remarkable growth over the forecast period.
"Unlike conventional food, organic food products are produced without using any kind of pesticides or fertilizers, which results in high cost of these products. Although high price of organic food is a barrier for consumers, to curb this concern, global organic food manufacturers are working towards reducing the existing price difference between organic and inorganic food. Moreover, as demand for organic food products increases, product innovations and economies of scale would result in reduced cost of production, further driving consumption of organic food market.", said Mr. Karan Chechi, Research Director with TechSci Research, a research based global management consulting firm.

"Global Organic Food Market Forecast & Opportunities, 2020" has evaluated the future growth potential of global organic food market, and provides statistics and information on market structure, size, and share. The report is intended to provide cutting-edge market intelligence and help decision makers to take sound investment evaluation. Besides, the report also identifies and

analyzes the emerging trends along with essential drivers, challenges and opportunities present in global organic food market.

Historically the consumer demand has grown by double-digits every year since the 1990s—and organic sales increased from $3.6 billion in 1997 to over $39 billion in 2014

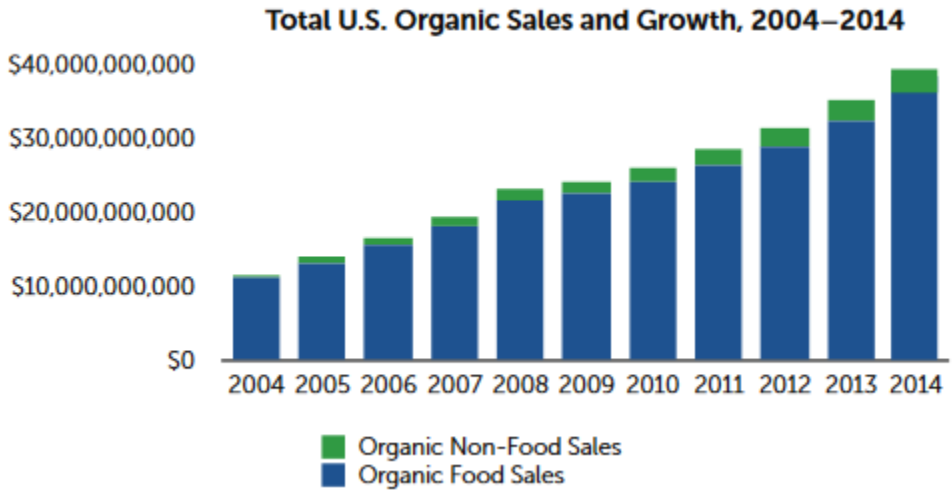


Figure 1 - Total U.S. Organic Sales and Growth

Source: Ota/state of organic Industry

20 Scope in India

India is bestowed with lot of potential to produce all varieties of organic products due to its various agro climatic regions. In several parts of the country, the inherited tradition of organic farming is an added advantage. This holds promise for the organic producers to tap the market which is growing steadily in the domestic market related to the export market.

As per National Programme for Organic Production, Currently, India ranks 10th among the top ten countries in terms of cultivable land under organic certification. The certified area includes 15% cultivable area with 0.72 million Hectare and rest 85% (3.99 million Hectare) is forest and wild area for collection of minor forest produces. The total area under organic certification is **4.72 million Hectare** (2013-14).

The Government of India has implemented the National Programme for Organic Production (NPOP). The national programme involves the accreditation programme for Certification Bodies, standards for organic production, promotion of organic farming etc. The NPOP standards for production and accreditation system have been recognized by European Commission and Switzerland as equivalent to their country standards. Similarly, USDA has recognized NPOP conformity assessment procedures of accreditation as equivalent to that of US. With these recognitions, Indian organic products duly certified by the accredited Certification Bodies of India are accepted by the importing countries.

20.1 Production

India produced around **1.24 million MT** of certified organic products which includes all varieties of food products namely Sugarcane, Cotton, Oil Seeds, Basmati rice, Pulses, Spices, Tea, Fruits, Dry fruits, Vegetables, Coffee and their value added products. The production is not limited to the edible sector but also produces organic cotton fiber, functional food products etc.

Among all the states, **Madhya Pradesh** has covered largest area under organic certification followed by Himachal Pradesh and Rajasthan.

20.2 Exports

India exported **135 products** last year **(2013-14)** with the total volume of **194088 MT i**ncluding **16322 MT organic textiles**. The organic agri export realization was around **403 million US $** including **183 US $** organic textiles registering a **7.73%** growth over the previous year. Organic products are exported to US, European Union, Canada, Switzerland, Australia, New Zealand, South East Asian countries, Middle East, South Africa etc..

Table 1 - Data on organic farm land

S.No.	Component	Quantum
1	Area under Organic certification Process (ha)	
	Full organic	757978.71
	In-conversion	327669.74
	Total	**1085648.45**
2	No. of Farmers under Organic certification Process	
	Full organic	351297
	In-conversion	246576
	Total	**597873**

3	Number of operators	2099
4	Number of processors	427
5	Number of grower groups	919
6	Number of exporters	253
7	Total Production (MT)	1,811,111
8	Total quantity exported (MT)	53,918
9	Value of export in US $	116.09 million
10	Value of export in INR Rs.	591 crores INR

Source: APEDA, 2014

Table 2 - Organic food production in India, 2012-13

Component	Quantum
Total production	9,76,646 M.T.
Total quantity exported	37,533 M.T
Value of total export USD	100.4 million
Total area under certification (including wild harvest)	2.8 million hectares
Total area under certified organic cultivation	0.45 million hectares
Share of exports to total production	4% approx.
Increase in export value over previous year	30% approx

Source: APEDA, 2014

Table 3 - Commodity wise organic food exports, 2012- 13

Commodity	Export Contribution (of volume)	Export Contribution (of value)	Export Contribution (Rs. Cr)
Cotton	43%	25%	123.88
Basmati Rice	15%	13%	59.2
Honey	11%	10%	46.41
Tea	8%	20%	92.13
Dry fruits	7%	18%	84.31
Processed food	5%	4%	17.99
Sesame	4%	2%	9.13
Spices	3%	4%	20.09
Medicinal &Herbal plants/products	2%	2%	10.59
Others	2%	2%	5.05

Source: APEDA, 2014

21 SWOT analysis of Organic farming

Table 4 - Differences in nutritional status between Organic and non-organic produce

Product	Nutrients in organic food per 100 g	Nutrients in chemically produced food per 100 g
Apples		
Sugars (total)	8.8 g	9.5 g
Vitamin C	21.6 mg	19.3 mg
Tomatoes after dehydration		
Sugars (total)	63.4 g	70.0 g
Tomatoes		
Vitamin C	21.8 mg	18.0 mg
Vitamin A	4.7 mg	3.5 mg
Tomatoes after dehydration		
Vitamin C	349 mg	288 mg
Vitamin A	7.3 mg	5.5 mg
Carrots		
Glucose	0.9 g	1.3 g
Potassium	269 mg	217 mg
Carrots after dehydration		
Sugars (total)	42.8 g	52.8 g
Potatoes		
Sugars (total)	0.7 g	0.8 g
Vitamin C	13.5 mg	17.8 mg
Potassium	329 mg	370 mg
Zinc	310 µg	260 µg
Potatoes after hydration		
Sucrose	1.0 g	2.4 g
Fructose	1.2 g	0.7 g
Glucose	2.0 g	1.2 g
Iron	5.7 mg	4.7 mg
Calcium	64.0 mg	56.4 mg
Zinc	1810 µg	1350 µg

Source: APEDA, 2014

22 Distribution channel

Initially we plan to capture Delhi and Gurgaon region for the sales and distribution of the organic product, through online channel.

22.1 Hub and Spoke model

The Hub & Spoke model is used in the context of multi location sourcing wherein a central consolidator called the 'Hub' provides a single face to the customer while seamless extensions called 'Spokes' are leveraged to provide the services, distributed across multiple locations.

Mainly two distribution channels

1. Azadpur (Delhi) – Serving Entire Delhi except Centeral and South Delhi
2. Gurgaon - Serving Gurgaon, Central and South Delhi

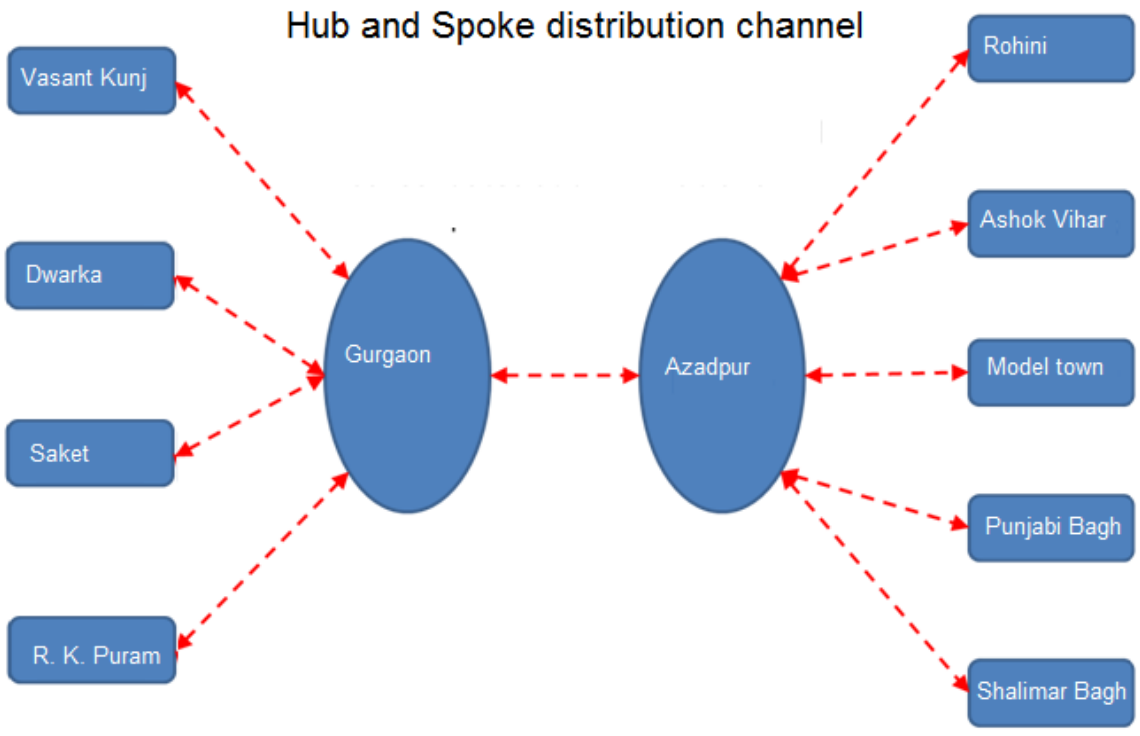


Figure 2 - Differences in nutritional status between Organic and non-organic produce

Using this model, transport will collect cargo from its point of origin (the tips of the spokes) and transport it back to a central processing facility (the hub). The shipment is then either warehoused or distributed directly from the heart of the network.

One advantage of the hub-and-spoke model it improved shipment tracking. When packages are shipped directly from the source, there are far too many routes connecting them to a vast network. Monitoring a shipment in such a complex system would be a logistical nightmare.

22.2 Delivery model

Service level will be within 24 hours.

A convenient delivery time frame would be taken from the customer. And next day's deliveries would be scheduled accordingly

22.3 Enhancement to the business model

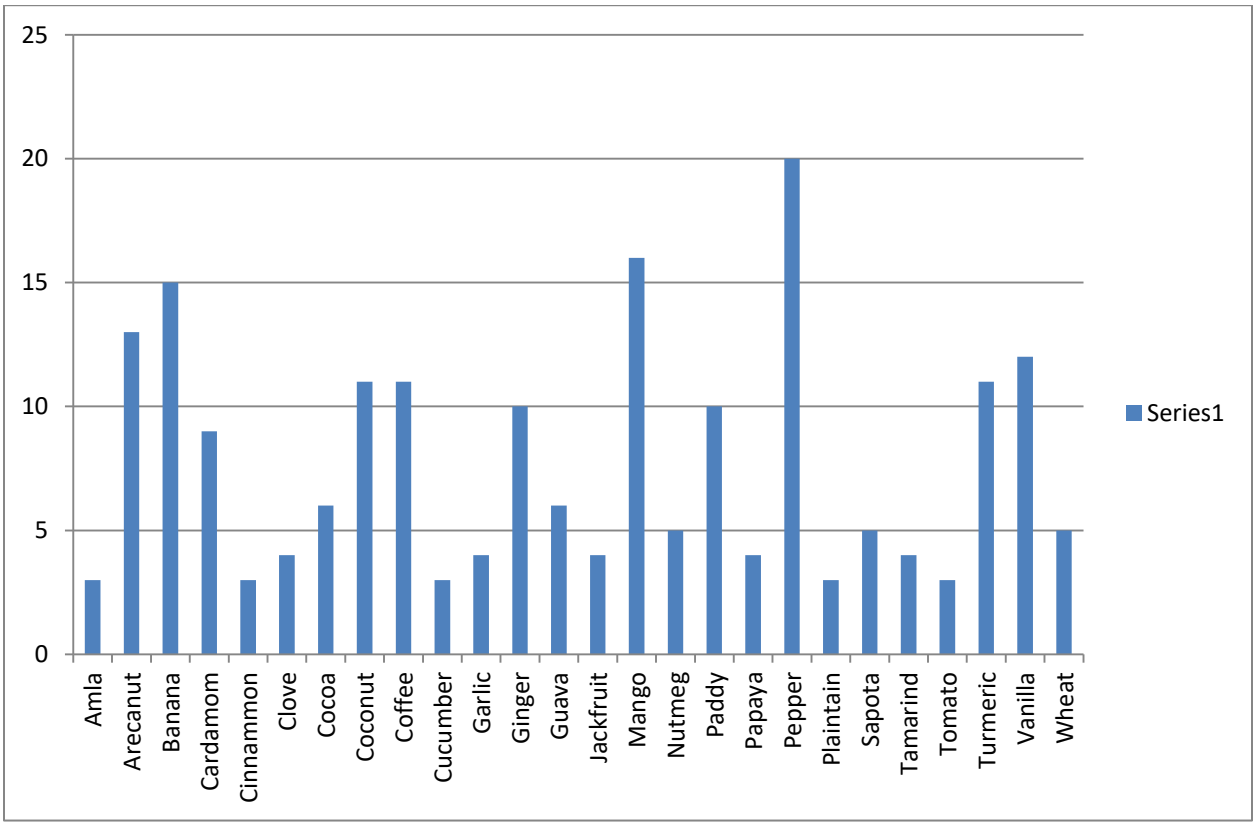
Once we have a continuous supply of Organic farm products, we can shift to target big clients like 5/4 Star hotels, which can introduce a new range of menu offering Organic food. This will help the company to concentrate more on the vendor development rather than servicing small clients.

23 Vendor Development

This is the most critical part of the project. For a vendor to be tagged as organic, a certification is required from an authorized certifier.

I have collected a list of 72 organic certified farmers across India (Annexure 4). Some of the most produced organic products from these farmers are

1. Banana
2. Cardamom
3. Coconut
4. Coffee
5. Ginger
6. Garlic
7. Mango
8. Pepper
9. Turmeric



Specimen of the certificate

TRANSACTION CERTIFICATE FOR ORGANIC PRODUCTS TRADED WITHIN INDIA FOR EXPORT PURPOSES

1. Certification Body (Name and Address)	**2. Transaction Certificate No.**
3. Producer/Manufacturer (Name and Address)	**4. Seller (Name and Address)**
5. Consignee (Name and Address)	**6. Buyer (Name and Address)**
7. Place of Dispatch	**8. Place of destination**

9. Marks and numbers. Trade name of the products

Product (s)	HS Code	Organic Status	Compliance	Lot No.	Trade Name	Packing Details
			NPOP & EU ☐ NOP ☐			

10. Transaction Details

(a) Order/Contract No. (b) Invoice No. & Date

(c) G.R.No. & Date (d) Mode of Transport

(e) Vehicle No.

13. Additional declaration by the Certification Body

This is to certify that :

(a) This Transaction Certificate is issued after satisfying ourselves with the required inspection under the checked programmes at S.No.9 above;

(b) On the date of issue of this Transaction Certificate, the Accreditation of this Certification Body under NPOP is valid; and

(c) The above information is correct to the best of our knowledge and belief.

Date :

Logo of Certification Body

Name and Signature of authorized person

Stamp of Certification Body

Figure 3 - Specimen of the certificate

Table 5 - Estimated cost for certification

Category of client	Item of cost	Cost (Rs.)
Small farmers and co-operatives	Travel and inspection Report making Certification	12,000/day 5000 flat fee 5000/certificate
Estate manufacturers and exporters	Travel and inspection Report making Certification	19,200/day 5000 flat fee 5000/certificate
Large and medium sized processors	Travel and inspection Report making Certification	16,800/day 5000 flat fee 5000/certificate

Source: APEDA

23.1 Three logo policy

Products displaying Green logo will be 'Fully Certified' Organic. All processes, from growing to preparing to packing would be according to National and International standards, verified by accredited agencies.

Products displaying Blue logo will be 'In Conversion'. This means that the farmer is using purely organic techniques, and has registered and is complying with set standards. Farmland must be managed organically for about 3 years before it can be fully certified.

Products displaying Yellow logo will be 'Natural'. This category contains products produced by small farmers who use purely organic techniques, but who have decided to not yet register for certification. This category will also include some processed foods, which do not contain any synthetic preservatives, colours, flavours or additives.

24 Result

24.1 Successful Organic Farming

In organic production, farmers choose not to use some of the convenient chemical tools available to other farmers. Design and management of the production system are critical to the success of the farm. Select enterprises that complement each other and choose crop rotation and tillage practices to avoid or reduce crop problems.

Yields of each organic crop vary, depending on the success of the manager. During the transition from conventional to organic, production yields are lower than conventional levels, but after a three to five year transition period the organic yields typically increase.

Cereal and forage crops can be grown organically relatively easily to due to relatively low pest pressures and nutrient requirements. Soybeans also perform well but weeds can be a challenge. Corn is being grown more frequently on organic farms but careful management of weed control and fertility is needed. Meeting nitrogen requirements is particularly challenging. Corn can be successfully grown after forage legumes or if manure has been applied. Markets for organic feed grains have been strong in recent years.

The adoption of genetically engineered (GMO) corn and canola varieties on conventional farms has created the issue of buffer zones or isolation distance for organic corn and canola crops. Farmers producing corn and canola organically are required to manage the risks of GMO contamination in order to produce a “GMO-free” product. The main strategy to manage this risk is through appropriate buffer distances between organic and genetically engineered crops. Cross-pollinated crops such as corn and canola require much greater isolation distance than self-pollinated crops such as soybeans or cereals.

Fruit and vegetable crops present greater challenges depending on the crop. Some managers have been very successful, while other farms with the same crop have had significant problems. Certain insect or disease pests are more serious in some regions than in others. Some pest problems are difficult to manage with organic methods. This is less of an issue as more organically approved biopesticides become available. Marketable yields of organic horticultural crops are usually below non-organic crop yields. The yield reduction varies by crop and farm. Some organic producers have added value to their products with on-farm processing. An

example is to make jams, jellies, juice, etc. using products that do not meet fresh market standards.

Livestock products can also be produced organically. In recent years, organic dairy products have become popular. There is an expanding market for organic meat products. Animals must be fed only organic feeds (except under exceptional circumstances). Feed must not contain mammalian, avian or fish by-products. Antibiotics, growth hormones and insecticides are generally prohibited. If an animal becomes ill and antibiotics are necessary for recovery, they should be administered. Vaccinations are permitted when diseases cannot be controlled by other means. Artificial insemination is permitted. Always check with certification body to determine if a product or technique is allowed in the Permitted Substances List and the organic standards. Organic production must also respect all other federal, provincial and municipal regulations.

Organic produce can usually qualify for higher prices than non-organic products. These premiums vary with the crop and may depend on whether the deal is with a processor, wholesaler, retailer or directly with the consumer. Prices and premiums are negotiated between buyer and seller and will fluctuate with local and global supply and demand.

Higher prices offset the higher production costs (per unit of production) of management, labour, and for lower farm yields. These differences vary with commodity. Some experienced field crop producers, particularly of cereals and forages, report very little change in yield while in some horticultural crops such as tree fruits, significant differences in marketable yield have been observed. There may also be higher marketing costs to develop markets where there is less infrastructure than for conventional commodities. Currently, demand is greater than supply for most organic products.

24.2 Summary

Organic farming can be a viable alternative production method for farmers, but there are many challenges. One key to success is being open to alternative organic approaches to solving production problems. Determine the cause of the problem, and assess strategies to avoid or reduce the long term problem rather than a short term fix for it. As the industry is in pre growth stage, the profit margin can be huge. The focus should be to establish a continuous supply of product so that bigger clients can be enrolled.

Annex 1

24.3 Products for Use in Fertilising and Soil Conditioning

In organic agriculture the maintenance of soil fertility may be achieved through the recycling of organic material whose nutrients are made available to crops through the action of soil micro organisms.

Many of these inputs are restricted for use in organic production. In this annex "restricted" means that the conditions and the procedure for use shall be subjected to condition. Factors such as contamination, risk of nutritional imbalances and depletion of natural resources shall be taken into consideration.

Inputs	**Condition for use**
Matter Produced on an Organic Farm Unit	
Farmyard & poultry manure, slurry, cow urine	Permitted
Crop residues and green manure	Permitted
Straw and other mulches	Permitted
Matter Produced Outside the Organic Farm Unit	
Blood meal, meat meal, bone meal and feather meal without preservatives	Restricted
Compost made from any carbon based residues (animal excrement including poultry)	Restricted
Farmyard manure, slurry, cow urine (preferably after control fermentation and/or appropriate dilution) “factory” farming sources not permitted	Restricted
Fish and fish products without preservatives	Restricted
Guano	Restricted
Human excrement	Prohibited

By-products from the food and textile industries of biodegradable material of microbial, plant or animal origin without any synthetic additives	Restricted

Inputs	**Condition for use**
Peat without synthetic additives	Prohibited for soil conditioning
Sawdust, wood shavings, wood provided it comes from untreated wood	Permitted
Seaweed and seaweed products obtained by physical processes extraction with water or aqueous acid and/or alkaline solution	Restricted
Sewage sludge and urban composts from separated sources which are monitored for contamination	Restricted
Straw	Restricted
Vermicasts	Restricted
Animal charcoal	Restricted
Compost and spent mushroom and vermiculate substances	Restricted
Compost from organic household reference	Restricted
Compost from plant residues	Permitted
By products from oil palm, coconut and cocoa (including empty fruit bunch, palm oil mill effluent (pome), cocoa peat and empty cocoa pods)	Restricted
By products of industries processing ingredients from organic agriculture	Restricted
Minerals	
Basic slag	Restricted
Calcareous and magnesium rock	Restricted
Calcified seaweed	Permitted

Calcium chloride	Permitted
Calcium carbonate of natural origin (chalk, limestone, gypsum and phosphate chalk)	Permitted
Mineral potassium with low chlorine content (e.g. sulphate of potash, kainite, sylvinite, patenkali)	Restricted
Natural phosphates (e.g. Rock phosphates)	Restricted
Pulverised rock	Restricted
Inputs	**Condition for use**
Sodium chloride	Permitted
Trace elements (Boron, Ferrous, Manganese, Molybdenum, Zinc)	Restricted
Wood ash from untreated wood	Restricted
Potassium sulphate	Restricted
Magnesium sulphate (Epson salt)	Permitted
Gypsum (Calcium sulphate)	Permitted
Silage and silage extract	Permitted excluding Ammonium silage
Aluminum calcium phosphate	Restricted
Sulphur	Restricted
Stone meal	Restricted
Clay ((bentonite, perlite, zeolite)	Permitted
Microbiological Preparations	
Bacterial preparations (biofertilizers)	Permitted
Biodynamic preparations	Permitted
Plant preparations and botanical extracts	Permitted
Vermiculate	Permitted
Peat	Permitted

"Factory" farming refers to industrial management systems that are heavily reliant on veterinary and feed inputs not permitted in organic agriculture.

Annex 2

24.4 Products for Plant Pest and Disease Control

Certain products are allowed for use in organic agriculture for the control of pests and diseases in plant production. Such products should only be used when absolutely necessary and should be chosen taking the environmental impact into consideration.

Many of these products are restricted for use in organic production. In this annex "restricted" means that the conditions and the procedure for use shall be subjected to conditions.

Inputs	**Condition for use**
Substances from plant and animal origin	
Azadiracta indica (neem preparations)	Permitted
Neem oil	Restricted
Preparation of rotenone from *Derris elliptica Lonchocarpus, Thephrosia spp*	Restricted
Gelatine	Permitted
Propolis	Restricted
Plant based extracts – garlic, pongamia etc.	Permitted
Preparation on basis of pyrethrins extracted from *Chrysanthemum cinerariaefolium*, containing possibly a synergist P*yrethrum cinerafolium*	Restricted
Preparation from *Quassia amara*	Restricted
Release of parasite predators of insect pests	Restricted
Preparation from*Ryania species*	Restricted

Inputs	**Condition for use**
Tobacco tea	Prohibited
Lecithin	Restricted
Casein	Permitted
Sea weeds, sea weed meal, sea weed extracts, sea salt and salty water	Restricted
Extract from mushroom (Shitake fungus)	Permitted
Extract from Chlorella	Permitted
Fermented product from Aspergillus	Restricted
Natural acids (vinegar)	Restricted
Minerals	
Chloride of lime/soda	Restricted
Clay (e.g. bentonite, perlite, vermiculite, zeolite)	Permitted
Copper salts / inorganic salts (Bordeaux mix, copper hydroxide, copper oxychloride) used as a fungicide depending upon the crop and under the supervision of accredited Certification Body	Restricted
Mineral powders eg : stone meal	Prohibited
Diatomaceous earth	Restricted
Light mineral oils	Restricted
Permanganate of potash	Restricted
Lime sulphur (calcium polysulphide)	Restricted

Silicates, clay (Bentonite)	Restricted
Sodium bicarbonate	Restricted
Inputs	**Condition for use**
Sulphur (as a fungicide, acaricide, repellant)	Restricted
Microorganism used for biological pest control	
Viral preparation (eg. Granulosis virus, Nuclear Polyhedrosis Virus etc.	Permitted
Fungal preparations (*Trichoderma spp*.)	Permitted
Bacterial preparations (*Bacillus spp)*	Permitted
Parasites, Predators and sterilized insects	Permitted
Others	
Carbon dioxide and nitrogen gas	Restricted
Soft soap (potassium soap)	Permitted
Ethyl alcohol	Prohibited
Homeopathic and Ayurvedic preparations	Permitted
Herbal and biodynamic preparations	Permitted
Traps	
Physical methods (Chromatic traps, Mechanical traps, sticky traps and Pheromones	Permitted

Annex 4

List of Organic farmers

List Of Organic Farmers							
Sl No.	**Name**	**Address/District**	**State**	**Phone**	**Email**	Crops	**Certified according to**
1	A. G Organic Farm Products	House No. 8 , Opposite Laxmi Palace, Bhupinder Nagar Road	Punjab	0175-2213261, 94170-43261	ag_organic@hotmail.com	Turmeric, Guava, Rajma , Garlic	NPOP, USDA NOP
2	Abali Tea Estate	c/o Mr.Jatan Pulu,Roing P.O, Lowardebangvally	Arunachal Pradesh	09435031097	binod57@yahoo.com,	Tea, Paddy , Mustard, Ginger, Maize, Turmeric, Garlic	NPOP, USDA NOP
3	Abraham Varkey	Elavukaduppil H, Nettithozhu P.O, , Idukki	Kerala	04868-285209		Pepper, Coffee, Cardamom , Tapioca, Turmeric, Banana , Ginger , Chilli	NPOP
4	AdimaJatiSevaSamiti	C/o Susant Kumar Pattnaik Circular Road,PhulbaniSahi	Orissa	06842-255525,254575,9437186204	susant_ajss@yahoo.com	Turmeric	NPOP
5	Alexander Antony	Karuvelithara NalukettilMithrakay P.O,Mampuzhakay , Alappuzha	Kerala	04772703886,9447866608	rice@poabs.in	Paddy	NPOP
6	Alpha Agrics Pvt Ltd	C/o Mohammed Jishan T.P.M Chambers, 5/1474-A Wayanad Road , Calicut	Kerala	9846389944	alpha_agrics@yahoo.com	Ginger, Carrot, Beetroot, Melon, Cucumber, Pumpkin, Coriander, Ladies Finger, Pea, Green gram, Curry leaves, Chilly, Tomato, Tapioca, Yam, Bitter gourd	NPOP
7	AnuttamaSheela Mohan	17 KaveriSalai, Kalakshetra Colony Bazant Nagar Chennai	Tamil Nadu	044 24910303	kandasamy.ezhuvaikkal@gmail.com	Coconut, Turmeric, Arecanut, Mango	NPOP
8	Ashok C Shah	3,Amar Aprts,Opp.Swargashram,Tithal Rd x lane Valsad	Gujarat	02632-254070, 9825123874	dracshah13@yahoo.com	Ash Guard, Lemon, Mango,BitterGuard,Brinjal,Cauliflower,Green gram	NPOP
9	Augustin U.J	Unnukallamattathil Rayrome P.O,Moonnankunnu , Kannur	Kerala	04982-285940,285250,9961485250		Vanilla , Coconut , Arecanut , Banana , Pepper	NPOP
10	Ayush Herbs Pvt Ltd	25 Phase I , Industial Area Nagrota Bagwan , Kangra	Himachal Pradesh	01892 252109,252099	info@ayushherbs.com	Acacia catechu , Acoruscalamus, Acyranthesaspera t, Adhatodavasica (Kali basuti), Adhatodavasica (Vasaka), Aeglemarmelos , Albizialebbek , Aloe vera , Andrographispaniculata , Asparagus racemosus , Bacopamonnieri , Bauheniavarigata, Boerhaavia diffusa ,Bombaxceiba , Calotropisprocera , Carrica fistula , Cassia occidentalis, Celastruspaniculatus , Centellaasciatica , Convolvulus pluricaulis , Cyperusrotundus , Delbergia sisso, Eclipta alba , Emblicaofficinalis , Eucalyptus citriodora , Ficuscarica , Holarrehnaantidysenterica , Hypericumperforatum , Lagenariasiceraria , enthaspicata , imosapudica , Morus alba, Terminaliaarjuna , Terminliabellirica , Terminliachebula , Tinospora cordifolia , jujube	NPOP, USDA NOP
11	Balambal R	Nan Nilam Fams,Velangadu, SembakkamPanchayat,Acharavakkam , Kanchipuram	Tamil Nadu	044 - 24910303	mohan.chunkath@gmail.com	Curry leaf, Sweet corn, Ladies finger, Cowpea, Yam , Onion , Brinjal, Bottle Gourd, Snake Gourd, Bitter Gourd	NPOP
12	BhaskaranNambiar T.V	Brusl House Valakkai ,Koyyam P.O , Kannur	Kerala	04602260353,0498-2260353		Coconut , Vanilla, Arecanut , Plaintain, Pepper	NPOP
13	BinodSaharia	C/o Brig AP Bhargava(retd) G-14 SukhijeevanApts ,	Rajasthan	0141-2223694,	binod57@yahoo.com	Annona , Lemon , Wheat, Barley, Oats , Garlic	NPOP

		Jaipur					
14	Biore India Ltd	Rajeev Baruah 5th Milestone,Mandleshwar Road , Khargone	Madhya Pradesh	09826652727, 09300626636	rajeev.baruah@gmail.com,biore@sify.com	Cotton	NPOP, USDA NOP
15	Bovas G	Pandimamvilaveedu, Kokuzhikunnu , Wayanad	Kerala	9747134111		Pepper , Coffee , Arecanut, Nutmeg, Coffee , Arecanut, Coconut , Pepper, Nutmeg , Banana , Ginger	NPOP
16	Bruno Perret	Shakti bhavan Attappalam P.O, , Idukki	Kerala	9961514225	bhaskharamanu@yahoo.co.in	Coffee , Pepper	NPOP
17	CfemIcs	Organic Malabar ICS P.B.No-1, Kilianthara P.O , Kannur	Kerala	0490-2422468, 9446657790	cfem@rediffmail.com	Cashew, Mango, Pepper, Pineapple, Plantain, Cocoa, Gamboge, Vanilla, Ginger, Cardamom, Arecanut, Sapota, Coffee, Banana, Breadfruit, Turmeric, Coconut, Nutmeg, Arrowroot, Clove, Cinnamon, Tamarind	NPOP, USDA NOP
18	Chackochan P.J	Pullanthanikal(h) Mullankolly P.O , Wayanad	Kerala	Res. 04936-240303,209977,mob.9447341 099	vanamoolika@yahoo.com	Coffee, Pepper , Vanilla, Cardamom, Arecanut , Coconut, Banana , Ginger, Turmeric , Vegetables, Medicinal plants, Fruits	NPOP, USDA NOP
19	Cherian T. Ramapuram	Chikkanahalli 1 Estate, Sidapur, Kodagu,	Karnataka	08274-258487	coorg@houseoframapuram.com. emmanuel.ramapuram@orangecounty.in	Non basmati Paddy	NPOP
20	Dibang Valley Tea Company (p) Ltd	Roing P.O, Lower DibangVally	Arunachal Pradesh	09435031097, 03732302650	binod57@yahoo.com	Tea	NPOP
21	Deputy Director Of Agriculture Mandi	KhaliarMandi,	Himachal Pradesh	01905 236926, 236922		Wheat,Paddy	NPOP
22	Deha Assam Tea Co Pvt Ltd	Naliapool,Dibrugarh	Assam	09435030621,03732301159	dehadib@yahoo.com	Fresh tea leaves, CTC tea, Orthodox tea	NPOP, USDA NOP
23	Dhampur Speciality Sugars Ltd	24,School Lane 2 FI, Opp.Intercontinental , New Delhi	Delhi	011-43504407, 09310708070	info@sugarindia.com	Sugarcane, Wheat, Paddy, Mango	NPOP
24	Dinesh Kumar	PeravallilPullanadi , Alappuzha	Kerala	0477 2736265		Paddy	NPOP
25	Eco-incarna Agro Farms Pvt Ltd	Plot 134, Sector 27 A Pradhikaran , Pune	Maharashtra	9370666191, 020 27651721	incarnapune@gmail.com	kokum , Mango, Cashew	NPOP
26	Gangadharan V.S	Vattaparambil H Pathzhakad , Thrissur	Kerala	0480 2850375,9446233406		Arecanut, Bitter Gourd, Tomato, Coconut ,black pepper, cowpea vegitables, cucumber, curry leaf, Drum stick, garciniacamboliga , garciniagamboliga dried, ginger fresh, green chilly fresh, green pepper/bell pepper, jack fruit, little /Ivy Gourd, mango, nutmug, nutmug mace, Okra, Papaya, pumkins	NPOP
27	George Kuriakose	Kumbilummoottil H , Idukki	Kerala	04868-285245		Cardamom, Coffee, Ginger, Pepper , Vanilla, Turmeric	NPOP
28	Good Earth Organic Farms	C/o Regimol R George Chothiakadavil Estate , Thrissur	Kerala	2543055, 9447897416 ,2553627	goodearth_org@yahoo.co.in	Turmeric Fresh, Coconut (Fresh), Green Pepper-fresh, Jackfruit, Mango (fresh), Mangosteen (fresh)	NPOP
29	Harpreet Singh Mansahia	c/o Dhillon organic farms, House No #286/3, Near Tope Khana Gate , Patiala	Punjab	0175-2220813,09417600030	mansahia@yahoo.com	Wheat, Potato , Green Chilli , Onion, Garlic, Paddy, Turmeric, Mung	NPOP
30	HegdeVp/ Vital Plant Products	Vital Plant Products Gowrishankar Estate,Harihalli	Karnataka	08170 - 217 403, 217	vitalplant@hotmail.com, vitalplant@ya	Coffee, Pepper, Cardamom,Clove, Jackfruit, Sapota, Cinnammon,	NPOP, USDA NOP

		K.Hoskote, , Hassan		416,0944803391 6	hoo.com		
31	Indian Cardomom Research Institute	SPICES BOARD Kailasanadu P.O	Kerala	04868-237268,237206 , 237207	icrimyla@yahoo.com	Cardamom	NPOP
32	James Thomas	James Thomas Ottakkattil(h), Chelad P.O Kothamangalam Ernakulam	Kerala	:0485-2823262, 09539072580	tom.ottakkattil@indudind.com,tom_james2006@rediffmail.com	Arecanut, Coffee, Cocoa,Coconut, Nutmeg,Garcinia, Guavas, Jackfruit, Jamba,Mango, Mangostein, Papaya, Plantain,Rambutan	NPOP
33	John T Ramapuram	Chikkanahalli 1 Estate, Sidapur, Kodagu,	Karnataka	08274 258487	coorg@houseoframapuram.com. emmanuel.ramapuram@orangecounty.in	Black pepper, Coffee cherry- Robusta, Non Basmati Paddy, Parchment coffee- robusta	NPOP
34	Jose A.V	Arancherril(h), Thirumarady P.O , Ernakulam	Kerala	0485-2875412,2875612,944621023 8		Banana, Cardamom, Pepper , Nutmeg, Arecanut, Coconut	NPOP
35	Jose Jacob	Vaniyapurackal Nettithozhu P.O , Idukki	Kerala	04868-285037,9447196958		Pepper , Cardamom , Banana, Vanilla, Turmeric , Ginger, Coffee , Clove	NPOP
36	Jose T Ramapuram	P.B No. 20, Chikkanahalli Estate , Kodagu	Karnataka	08274-258487	coorg@houseoframapuram.co m	Coffee, Pepper	NPOP
37	Joseph K.A	Kizhakkethottam Nettithozhu P.O , Idukki	Kerala	04868-285207,09605047776		Clove, Pepper , Coffee , Cardamom, Vanilla, Gosseberry , Turmeric, Tomato , Jackfruit, Banana	NPOP
38	Joseph Korah	Karivelithara Mampizhakary , Alappuzha	Kerala	0477 2707375, 9495240886	rice@poabs.in	Paddy	NPOP
39	Joseph M.D	Madappally House,Nettithozhu P.O Kochera , Idukki	Kerala	04868-285031		Coffee, Banana, Pepper , Ginger,Turmeric	NPOP
40	Joseph Mathew	Thayyil, Nettithozhu P.O , Idukki	Kerala	04868-285036, 09544734874		Pepper , Cardamom , Coffee , Vanilla , Turmeric, Ginger , Banana , Arecanut , All Spices	NPOP
41	Kaladharan A.J	PaliyamangalamKalam, , Palakkad	Kerala	9446726049 , 9446827674	poabs_organic@yahoo.com	Coconut, Paddy	NPOP
42	KamalasananPillai.P	Krishna Mandiram Kalluvathukkal P.O Kollam.	Kerala	9387212005, 04742573600	kamalasanan.pillai@rediffmail.com;azollapillai@gmail.com	Banana, Red Rice Paddy,Amaranthusspinosus,Cowpea,Cucumber,Okra	NPOP
43	Kuriakose P.M	Peedikeparampil Nettithozhu P.O , Idukki	Kerala	9495495308		Turmeric fresh, Banana fresh, Black pepper, Cardamom, Clove, Cocoa, Coffee cherry - Arabica, Vanilla, White pepper	NPOP
44	Lalatendu P Deo	Koraput Organic New Janiguda,Kumbha Road	Orissa	06852 250745,09437064436	lp_deo@yahoo.com	Coffee, Mango , Paddy , Pepper, Cinnammon	NPOP, USDA NOP
45	Leonard John	Johnson Villa Near SangeethaTalkes , Kannur	Kerala	0497-2708889,2706432,	enquiry@indiancinnamon.com	Coconut , Arecanut, Pepper, Cinnammon , Banana	NPOP
46	ManasKrushi Farm	304,Sunflower Tower, Paravati Bhuvan, , Thane	Maharashtra	022 - 25333299/253	manas@manasorganic. org	Cashew, Mango, Patcholy, Vetiver, Paddy, Vegetables	NPOP, USDA NOP

				3 3197, 022 25383900			
47	Mathew Mathew	Kizhakkekkara(h), Kanjirapuzha P.O ,Palakkad	Kerala	04924-238232, 238142, 9447973232	mmathew@vsnl.com	Coconut, Arecanut, Cocoa , Banana, Pepper , Mango ,	NPOP, USDA NOP
48	Mouling Tea	Ramsing village, Jengging P.O,	Arunachal Pradesh	036 82234249	man_dpte@rediffmail.com	Fresh tea leaves, Orthodox tea	NPOP
49	Narayanan Unny P	KarukamaniKalam, , Palakkad	Kerala	04923-221177, 9447277749	unnysfarm@gmail.com, unny@navara.in,	Paddy, Coconut, Banana, Mango, Pomegranate, Papaya , Tamarind , Aromatic & Medicinal Plants	NPOP, USDA NOP
50	Nu Tech Farm	c/o Professional courriers , Kutch	Gujarat	02834-288911,09825235811	vijaykusum@nugroup.in, nutechfarm@yahoo.co	Vetiver, Tamarind, aonla , Tinospora , Gymnemasylvestris , Date Palm , Neem, Aloe Vera, TerminaliaArjuna	NPOP
51	Organic WayanadIcs	Organic Wayanad Administrative Office, Vanamoolika Complex P O Mullankolly, Pulpally,Wayanad	Kerala	04936 241383,9447316626	organicwayanad@yahoo.co.in	Coffee, Pepper, Vanilla, Cardamom, Coconut, Cashew nut, Nutmeg, Clove, Jackfruit, Mango, Tamarind, Cambogia, Cinnamon, Allspice, Cocoa, Ginger, Turmeric, Banana, Yam, Red chilly	NPOP, USDA NOP
52	Pandian Agro Farms	Dr S Pugalanthi Pandian 2/1088 Parijatham Street Ezhil Nagar-625014 , Madurai	Tamil Nadu	0452 4390378, 9965528008	athideerapandian@gmail.com	Coriander, Drumstick, Gooseberry, Jatropha	NPOP
53	Plant Lipids Ltd	Plant Lipids P Ltd Kadayiruppu Kolenchery Ernakulam,- 682311	Kerala	0484 3051500	info@plantlipids.com	Turmeric,Allspice,Blackpepper,Ginger,Green Pepper, Kacholam,Nutmeg	NPOP
54	R.t Aromatics Pvt Ltd	Kangar, Tehsil Grashankar , Hoshirapur	Punjab	9815064744	director@rtorganics.com	Curry leaf, Kinnow , Fodder, Wheat, Rose, Paddy, Lemon Grass	NPOP, USDA NOP
55	Red Frog	C/o Mr. Manu K. Abraham Kachirackal H Amaravathy , Idukki	Kerala	04869-224560,09447032276	spiceroutes@sancharnet .in , redfrog@dataone.in	Pepper, Vanilla , Banana	NPOP
56	Regi Joseph	Palackatharappil House, Valambilimagalam (PO), Shreekrishnapuram , Palakkad	Kerala	0466-2261264		Coconut , Banana , Amla , Pepper, Arecanut	NPOP
57	Rural Resourse&training Centre	Umran	Meghalaya	03638-262303,262314,9863096322	cyriltirkey@rediffmail.com,rrtcumran@rediffmail.com	Ginger	NPOP
58	SamanwitaGramyaUnnayanSamathi	C/o Mr.Ajith Kumar Pattanayak G Udayagiri	Orissa	06847 260048,260346	pdsamanwita@rediffmail.com	Turmeric	NPOP
59	Shree Nasik PanchavatiPanjrapole	Opp. Nimani Bus Stand Panchavati , Nasik	Maharashtra	0253 2514007	snppnsk@rediffmail.com	Amla , Mango , Coffee , Maize , Guava , Fodder	NPOP
60	Shree Nasik PanchavatiPanjrapole	OppNimani Bus Stand Panchavati , Nasik	Maharashtra	9226427447	snppnsk@rediffmail.com	Milk	NPOP
61	Sivankutty T.C	Thundiyil H Changamkari P.O ,	Kerala	0477 2212689,9		Coconut, Paddy , Mango, Banana	NPOP

		Alappuzha		349469110			
62	Sreevatsa Organic Farms	Madamathi Village, K.K Chavadi , Coimbatore	Tamil Nadu	0422-2432184,2432574,944332193 3	sreevatsacbe@sreevatsa .com	Cashew , Coconut, Mango , Guava , Banana , Tamarind	NPOP
63	Sumit Singh Sran	Dhans,Chak-3KNJ HanumangarhJn	Rajasthan	9868876179	sumeetsran@yahoo.co.i n	Kinnow, Guava, Wheat, Wheat and Barley (Jau), Channa (Black Gram),Green gram, Rice (Basmati), Moong, Bajra	NPOP
64	Superintendent	District Agricultural Farm Kallumel P.O,	Kerala	94463 69159	paoalp@hotmail.com	Tapioca	NPOP
65	Sylvan Heights Biodynamic And Vedic Farm	Batamandi,SaontaSahis	Himachal Pradesh	9816008399	subodh.abbhi@gmail.com,piyusha4@gmail.com	Mango , Litchi , Sapota, Grapes , Strawberry , Wheat, Paddy, Tomato, Brinjal , Ladies finger, Bitter Gourd	NPOP
66	The Coonoor Tea Estates Company Limited	Springfield Post , Nilgiri	Tamil Nadu	0423-2233663,2230156,2230405,2235493	mbcoonoor@mathesonbosanquet.com	Fresh tea leaves, Green tea, Black tea	NPOP
67	Thomas K.J	Karipaparambil(h) Irumbakachola P.O , Palakkad	Kerala	04924-222446,222321	kjt321@gmail.com	Coconut, Pepper, Plaintain , Vanilla, Mango	NPOP, USDA NOP
68	Thomas K.T	Kizhakekara House , Palakkad	Kerala	04924-238435,238571,222506,22537 7	mail.ktthomas@gmail.com	Coconut, Cocoa, Vanilla , Arecanut , Pepper, Mango, Jackfruit, Coffee ,	NPOP
69	Thomas Mathew	Kizhakkekkara House,Kanjirapuzha P.O Mannarkkad , Palakkad	Kerala	04924-238997,238262, 9447622478	tomyorganicfarmer@gmail.com	Plaintain, Coconut, Mango, Amla, Guava, Sapota, Plaintain, Pepper,Ginger, Turmeric, Jackfruit	NPOP, USDA NOP
70	V-eco Integrated Farm	Sri Vasavi Farms SantheGiunden Palayam Thandamuthur Via , Coimbatore	Tamil Nadu	9366631030	vasavipharma@eth.net	Coconut, Mango , Papaya , Sapota, Amla, Guava , Banana	NPOP
71	Inter National Traceability Systems Ltd	Initsoag08upju Inter National Traceability Systems Ltd Advisor Technical, C-130, Lajpat Nagar,	New Delhi	011-41349691/92, 32615581-83	certification@agritrace.in /info@agritrace.in	Wheat	NPOP
72	M/s EktaVindhyachal Satpura Organic Farmers Association	M/s Ekta VindhyachalSatpura Organic Farmers Association 5 Th Milestone , Mandleshwar Road Kasrawad Khargone,	Madhya Pradesh	9826074664	rajeev.baruah@gmail.com, farmers.organization@gmail.com	Black gram Soyabean Chilli Cowpea Greengram Raw Cotton Grountnut Maize Grain Onion Pigeon Pea Red chilli	NPOP

Source - http://www.agritech.tnau.ac.in/

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