EXPORT-IMPORT BANK OF INDIA

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POTENTIAL FOR ENHANCING EXPORTS FROM ANDHRA PRADESH

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EXECUTIVE SUMMARY

India has long emphasized on the role of exports in infusing vitality to the country's growth story. This commitment of the Government of India finds resonance in its economic policy. The Foreign Trade Policy (FTP) 2015-20 forms the guiding architecture for providing the much needed thrust to the export sector.

While the strategies outlined in the FTP hopes to fructify the vision of increasing India's share in global exports from the current 2 percent to 3.5 percent, efforts at all levels of governance will be important for achieving these targets. The global export slowdown and fast changing international scenario further necessitate multi-faceted intervention aimed at improving competitiveness and capacity creation.

While trade and commerce is a subject of the Union List, which empowers the Parliament the India to make legislations, the building blocks of such activities which includes agriculture and industries are prerogatives of the State Government. It is therefore essential that the evaluation of export potential, identification of product and market, adherence to technical standards, strategies for branding and marketing, trade facilitation and development of overall trade competitiveness is undertaken at the State-level.

Set against this backdrop, the current Study attempts to draw up a strategy for promoting exports from the State of Andhra Pradesh, built inter alia on an analysis of the current resource base of the State, its production levels, trade and investment profile and its future potential.

ANDHRA PRADESH: A MACROECONOMIC OVERVIEW

The economy of Andhra Pradesh is multi-faceted, with the coastal region providing requisite environment for development of manufacturing activities – the fertile river plains supporting agriculture and allied activities, and the districts in Rayalaseema being conducive for mineral based industries.

The resource diversity is complemented by fairly well developed infrastructure facilities and a favourable policy environment. The State has also been rated as the top State in the country in the Ease of Doing Business Ranking by the Department of Industrial Policy and Promotion (DIPP) - World Bank

Assessment of State-level reforms related to doing business in India.

In spite of the challenges on account of the State bifurcation, Andhra Pradesh has emerged as an important investment destination in India and offers conducive environment for business to flourish. Investor friendly policy and business environment, coupled with availability of reliable power, large industrial land banks, skilled labour, and robust infrastructure have made the State a globally competitive investment destination. Among its ambitious plans is building a world-class greenfield capital city at Amaravati.

KEY ECONOMIC ACTIVITIES

Andhra Pradesh has consistently been among the top performing States of India. The growth in the State's Gross Domestic Product (GSDP) has been higher than the growth in the Gross Domestic Product of India over the past three years. The growth in Gross Value Added for Andhra Pradesh has also been robust, recording a Compound Annual Growth Rate (CAGR) of 6.8 percent during the period FY12 - FY16. This growth can largely be attributed to the services sector which registered a CAGR of 10.4 percent during the same period.

The share of services sector in the State's GSDP has been growing and stood at 46 percent in 2015 - 16. The sector not only contributes directly to the exports from the State, but also propels growth in exports from the manufacturing sector, as low cost and high quality services in areas such as telecommunications, financial services, transport, logistics and distribution are crucial for enhancing the competitiveness of merchandise exports. IT and ITeS, tourism, healthcare, engineering, procurement, etc. are some of the key services segments in Andhra Pradesh.

While services sector has been the major growth driver for the State, agriculture and allied sector remains the bedrock of Andhra Pradesh's economy. It accounts for nearly 27 percent of the total State output. A favourable agro-climatic condition and long coastline have enabled agriculture and allied activities to play a key role for Andhra Pradesh in terms of contribution to output, employment and foreign exchange.

Andhra Pradesh is one of the largest producers of rice, maize, groundnut, sunflower, and cotton in the country. It also ranks first in the production of brackish water shrimp and fresh water prawn, and second in production of fresh water fish. The State also ranks fourth in marine fish production and boasts of a well-developed animal husbandry sector as well.

The industrial sector is also an important contributor to output and employment in the State. According

to the Annual Survey of Industries 2013-14, Andhra Pradesh accounts for nearly 7 percent of the total number of factories in India, with food products accounting for the largest share of 28.9 percent in the total output from the State. The other major industries contributing to the total output are coke and refined petroleum products (share of 15.4 percent), basic metals (15.1 percent), chemical and chemical products (6.5 percent), other non-metallic mineral products (5.8 percent) and textiles (5.6 percent).

The industrial performance of the State has been improving over the past two years, especially with regard to the manufacturing sector. The Index of Industrial Production (IIP) is a measure for industrial growth estimated monthly by collecting data pertaining to manufacturing, mining, quarrying and electricity. After registering consecutive years of decline in 2012-13 and 2013-14, general index for IIP for the State of Andhra Pradesh increased by 3 percent during 2014-15. During April-October 2015-16, the general index for IIP registered a marginal decline of 0.1 percent. This was largely on account of a decline of (-) 8.2 percent in the IIP for mining and quarrying. As against this, the IIP for manufacturing sector had risen by 8.0 percent during April-October 2015-16, as compared to the corresponding period of previous year.

EXPORT POTENTIAL

The diverse resource endowments coupled with robust production and value addition networks, position the State at the fulcrum of the exports sector in India. During 2015-16, Andhra Pradesh ranked sixth among all States by value of exports. Merchandise exports from the State amounted to Rs. 794.9 billion during the year, accounting for 4.6 percent of the country's total exports.

Vehicles, aircraft, vessels and associated transport equipment was the largest sector of exports from Andhra Pradesh, followed by chemical and allied products, animal and animal products, vegetable products, pharmaceutical, gems and jewellery and textiles and garments. The USA (share of 18 percent), Singapore (10 percent), China (8 percent), Hong Kong (7 percent) and Malaysia (6 percent) were the top destinations for exports from the State.

While exports from Andhra Pradesh have registered robust increase in the recent past, in order to maintain this trend going forward, it might be essential to identify key products and markets which provide opportunities for companies to grow and achieve economies of scale, as also increase their efficiency levels. The State has significant comparative advantage in several products, which can be explored for boosting exports.

Vegetable products, construction material, pharmaceutical products, and vehicles, aircraft, vessels and associated transport equipment have the maximum potential for exports from Andhra Pradesh, not only because the State has comparative advantage in exports of these products but also because the global import demand for these products has been robust.

In the category of vegetable products, Andhra Pradesh accounts for 8.4 percent of India's exports. The top destinations for exports from the State include Vietnam, Sri Lanka, the USA, Guinea and Senegal. The State could consider focusing on exporting to major importing countries of vegetable products such as China, Germany, Japan, and the Netherlands.

Andhra Pradesh also accounts for 12.9 percent of India's exports of construction material, with the USA, Turkey, Saudi Arabia, UAE, and the UK being the top destinations for exports. The State could also explore diversifying its exports to top importers such as Germany, France, and South Korea.

The State's success in penetrating the top markets for pharmaceuticals has also been limited, except in case of the USA and Germany. The major markets of Belgium, the UK and Japan also need to be explored by exporters from the State.

The export of vehicles, aircraft, vessels and associated transport equipment from Andhra Pradesh have largely been geared towards the Asian markets of Malaysia, Japan, Sri Lanka, and Singapore. This is at variance with the top markets for these products. The State can explore opportunities in the yet unexplored but major markets of the USA, Germany, China, the UK and France.

The Government can also improve the quantum of exports by increasing manufacturing capabilities and improving competitiveness in the product categories of Machinery and Mechanical Appliance; Electrical and Electronics; Optical, Measuring, Medical and Similar Instruments and Parts; and Leather and Leather products.

STRATEGIES

The State Government policies formulated after the bifurcation of the State are imparting a renewed energy and momentum to export growth. However, there is currently no dedicated export strategy for the State. The following strategies can be considered by the State Government in formulation of an export strategy:

Augment Warehouse and Storage Facilities

Lack of adequate transportation, storage and distribution services is an issue for exporters across the country. Specifically, in the context of Andhra Pradesh, this is a major constraint as perishable products

account for a significant share of the State's exports. Agro and food processing and marine products are key export sectors for the State, and the Government is also focusing on incentivizing pharmaceutical exports. These require adequate warehousing and cold storage infrastructure.

According to the analysis conducted in this study, the State should have at least 19 million tonnes of storage space only from the perspective of agro and agro based industries. However, according to the Andhra Pradesh State Warehousing Corporation, the State currently has only about 1.1 million MT per annum of warehousing capacity.

Andhra Pradesh also needs substantial expansion of cold storage infrastructure, which is critical for ensuring quality and maintaining shelf life of products. Currently, the State has 203 cold storage units, with capacity of 584 thousand MT. There is need for more such units to meet the growing demand for safe handling of exports.

The State can also develop a multi-modal cold-chain network which shall involve two or more modes of transport for facilitating transportation and storage of perishable products. Investment in development of last mile connectivity can also serve as an objective for this proposed multi-modal network.

Establishment of Coastal Economic Zones

Fourteen Coastal Economic Zones (CEZs) have been identified along the coastline of the country in the National Perspective Plan of the Sagarmala Programme. Two CEZs have been proposed in the State of Andhra Pradesh – one covering the ports of Kakinada, Vizag and Gangavaram; and the other around the port of Krishnapatnam.

Creation of adequate infrastructure in the CEZs needs to be complemented through incentives from the Government for enterprises located within these. For export prospects from the CEZs in Andhra Pradesh to remain positively resolute, key driving forces need to be identified. Some policy interventions which could be considered include the following:

- The policy of tax exemption with a sunset clause as in the case of SEZs may not necessarily promote productivity and innovation. Therefore, overall tax incidence on the units should depend on the type of enterprise, its stage of development, and the amount of exports. According to a report of the Comptroller and Auditor General of India, only 9.6 percent of the SEZs in the country cater to multi-product manufacturing, and more than half are engaged in the IT/ITeS sector. To promote

more units in high-technology manufacturing sector, the tax incidence on such units should be comparatively lower. Units at early stage of business development, adjudged by the number of years of operation and nature of industry, can also be provided greater tax incentives. This would stimulate entrepreneurship and exports, and as a corollary, will engender employment and economic growth.

- Common testing and certification facilities for major export sectors should be provided within the CEZs. Compliance to enhanced quality standards will be crucial to keep pace with international trends and expectations.

- Sales by SEZs to Domestic Tariff Area (DTA) are subject to tariffs. On the other hand, India has signed free trade agreements with several countries, and the tariff levied on goods imported from these countries are at concessional rates. To alleviate this constraint in case of CEZs, a certain percentage of sales to DTA should be permitted at concessional duties.

Setting Up Andhra Pradesh Export Promotion Council

Andhra Pradesh Export Promotion Council (APEPC) can be set up with support from the State Government, industry associations and exporters for providing information and guidance to exporters. It can also serve as a link between the exporters and the Government, and help alleviate the constraints for export growth. The role of the Council shall, inter alia, include:

- Assisting exporters in understanding and leveraging the export policies and export assistance schemes of the State and Central Government;
- Building a statistical database for exports and imports from the State;
- Providing commercially useful information to exporters through market research, and identification of key markets and products. This can be made available through the agency's website;
- Providing guidance to exporters on various matters such as standards, certification, export finance, insurance, etc.;
- Providing support for promotional activities such as external publicity, participation in fairs and exhibitions, promotion of exclusive exhibitions and trade fairs of specific products;
- Coordinating the working of all institutions engaged in supporting international trade within the State;
- Identifying the need for export related training and capacity building, and liaison with DGFT and industry chambers for facilitating these.

The proposed AEPC can set up Trade and Information Centres/ Kiosks at

major industrial growth centres of the State for providing information to exporters, conducting buyer-seller meet, etc. These centres can provide information pertaining to setting up export business, market and buyer identification, channels of distribution, processing of export order, export pricing and costing, risk mitigation methods, export finance, and labelling, packaging and marking of goods.

Raw Material Banks

Availability and cost of raw material can be a major constraint for manufacturers. In the handloom sector, for example, high fluctuations in raw material prices can affect capacity utilization and value accruals. In the engineering sector as well, there are limited domestic capabilities for advanced metallurgy and development of special materials, which makes the availability of certain materials a constraint. The efficacy of raw material banks in alleviating supply side constraints to production has been well established. For example, a raw material bank for dyes and chemicals in the Tirupur Export Knitwear Cluster allows the manufacturers to procure dyes and chemicals at prices which are at least 5 percent lower than the market prices.

To ensure timely supply of quality raw materials to producers, raw material banks can be set up by the Department of Industries, Government of Andhra Pradesh in key sectors such as textiles, engineering, and agro and food products. These raw material banks can supply the required raw materials to MSME units as and when required on producing a prescribed requisition form. A price fluctuation reserve can be maintained in these banks to ensure that smaller producers are protected against wide fluctuations in raw material prices. Several raw material banks already exist in sectors such as handlooms, but there is a need for more such banks in sectors such as handicraft, agro and food products, etc. In this regard, APEPC can make recommendations to the State Government based on its assessment of the supply related constraints for export oriented production in the State.

Branding of Geographical Indications Products

Several handicrafts, handloom and agricultural products from Andhra Pradesh have been conferred Geographical Indications (GI) status. The reference to geographical origin along with the use of traditional practices and processing methods, provides substantial marketing potential. GIs are considered important tools for marketing strategies, and function as product differentiators.

To reap the benefits of GI status, it is important for the GI brand to be recognised as a reliable and preferred brand in the market with a

distinguished positioning. Products such as Darjeeling Tea have been able to gain substantial market share on account of this brand building. In order to attain similar levels of success, key value proposition needs to be defined for the products having GI status. The logo and name of the GI brand needs to be developed and marketed, and mechanism needs to be devised for ensuring that all the products marketed under the GI brand meet the minimum specified standards. Initiatives are also needed for identifying more products from the State which can be accorded with GI status. In this regard, a brand equity fund can be setup by the State Government under the aegis of the Department of Industries. This will be aimed at building globally competitive brands for products originating from the State. The fund can also assist in marketing of these branded products in the international arena. Export related brochures, interactive CDs, etc. can be created for popularizing the products from the State in international markets.

Export Awards

To encourage exports from the State, Export Awards can be introduced for recognizing the efforts of exporters across the key sectors—agricultural and allied products, marine products, chemical and allied products, engineering goods, textile and garments, drugs and pharmaceuticals, and services. Separate awards can also be instituted for the MSME units in the State. A selection committee comprising officials from key Government agencies and eminent industrialists can evaluate the applications taking into consideration the value of exports, ratio of exports to sales, level of value addition, adoption of best practices, product and process innovation, R&D activity, etc.

Skill Development and Capacity Building

Exporters need to have in-depth knowledge of the latest global developments pertaining to international trade viz., export finance, insurance, packaging / eco-labelling, quality, etc. They should also acquaint themselves with the rules and procedures of importing countries. Hence, there is a need to conduct Workshops / Seminars / Conferences regularly on different aspects of international trade and across different sectors in the State. Industry associations and agencies, along with the proposed Andhra Pradesh Export Promotion Council can help in organizing these programmes.

The Government of Andhra Pradesh intends to set up Sector Skill Councils at the State level on the lines of National Sector Skill Council. These can also be leveraged for enhancing the existing capacity of exporters and creating awareness about important procedural aspects.

Financial Support for Managing Technical Barriers to Trade / Standards

Analysis carried out in the Study indicates that exports from Andhra Pradesh have largely been geared towards developing countries, and its penetration in the developed countries, which are the largest importers for several of the identified products, has been fairly limited. The usage of Non-Tariff Barriers (NTBs) in developed countries, especially Technical Barriers to Trade (TBTs) discourage exporters from entering these markets.

For Andhra Pradesh, alleviating this constraint is even more important given that it is one of the major producers and exporters of agriculture and allied products, which remains one of the most protected sectors for majority of the trading nations. Standards in the sector are stringent, and compliance with these requires significant investment. Many developing countries, including India face the twin challenges of inadequate research and development facilities as well as good quality lab network services to improve and upgrade product qualities as per requirements of Good Agriculture Practices (GAP), Hazard Analysis and Critical Control Point (HACCP), etc. The investment requirements for HACCP plants are large as most of the capital goods related to the plant need to be imported from the developed countries. The installation cost of HACCP plants varies from Rs 10 million to Rs 25 million. Further, on an average, an export processing firm is estimated to spend about Rs 2 million per year to maintain a HACCP plant[1].

There are several standards and certifications in other sectors as well. For example, the "Communauté Européenne (CE)" marking is essential for exports to Europe of products such as medical devices, simple pressure vessels, electrical and electronic products, building materials, gas-fuel-fired equipment, toys, etc. Equipment used in potentially explosive atmospheres within the EU are also required to comply with the ATEX directive. Similarly, China requires certain imported products to have Chinese Compulsory Certification. These include several categories of auto-components, electrical equipment, electronics, etc. In Russia as well, industrial products containing pneumatic products are required to conform to the standards prescribed by GOST-R. In addition, a certificate of conformity is required at customs clearance.

In order to encourage exporters, the State can share a portion of the expenses incurred for such compulsory certifications. Depending upon the turnover of the exporting unit,

[1]Export of Horticultural Products from India: Economic Impact of Cost of Compliance for Food Safety Measures; Association of Asia Scholars

the State can bear 50-100 percent of the certification / compliance cost.

Leveraging Technology Acquisition Schemes

The Government of India has launched several schemes for assisting Indian manufacturers to acquire and evolve cutting-edge technologies to catalyse growth and compete in global market. One such initiative is the Technology Acquisition Fund Programme (TAFP) which is an industry driven initiative aimed towards assimilation of technology in a short span of time. In view of the objectives laid out in the 12th Five Year Plan, TAFP mandates to provide funding to offset the higher cost of the best technology available globally. The TAFP provides financial assistance to Indian Capital Goods sector to facilitate the acquisition of strategic and relevant technologies and also development of technologies through contract route, in-house route or through joint route of contract and in-house.

Similarly, the Technology Acquisition and Development Fund (TADF) aims at facilitating acquisition of clean and green technologies by MSMEs across sectors, and bridge the technological gap at an affordable cost. These can be leveraged by exporters from Andhra Pradesh to boost high-technology exports.

In this context, the State government can provide support in submission of applications under the schemes. For example, under TAFP, applicants need to carry out a mandatory detailed assessment study by a third party specialized and accredited agency on the proposed technology. This is done to evaluate the following aspects in the context of improving the existing business proposition —

- Technical uniqueness of the proposed technology in the context of area of application vis-à-vis other competitive technologies;
- Commercial viability and appropriate justification for financial valuation of the "Proposed Technology";
- Requisite level of details on Intellectual Property Rights in relation to context of improving the existing business proposition.

Prior to the opening of the Request for Proposal (RFP) cycle of the schemes, the State Government can invite and review applications from export-oriented units / clusters / consortium in the State, and provide necessary advisory and financial support in preparation of the application. As these programs meet only a fixed percentage of the cost of technology acquisition (25 percent in case of TAFP subject to ceiling of Rs. 10 Crore), the State Government can provide additional financial support on a case-to-case basis.

Support from Exim Bank

Several flagship programmes of Exim Bank, such as Lines of Credit, and

Buyer's Credit under NEIA can help propel medium and long term exports from the State, and create export opportunities for Indian companies.

Lines of Credit (LOC): Benefits from the LOC program can accrue to the exporters from Andhra Pradesh in several key areas. For example, in the cement sector, Exim Bank has several operative LOCs in the countries of Djibouti, DR Congo, Central African Republic, and the Republic of Congo. Exporters from the State can tap such opportunities. In fact, Andhra Pradesh is best placed to take advantage of such opportunities as the State is among the top exporters of cement from India.

IT and ITeS is also a focus sector for the State, and through the LOC program, mutually beneficial arrangements can be made by exporters with other countries which require IT training. Currently, Exim Bank has an operative LOC in Senegal for IT training.

Under the LOC program, several countries also seek machinery imports, which can be supplied by the exporters from Andhra Pradesh. Project exports from the State can also be enhanced through the LOC program. Project exports are vital conduits for exporting high-value machinery, labour, expertise, and technology, especially since global merchandise exports remained below 3 percent for the fourth consecutive year in 2016.

Overseas Investment Finance (OIF): While the State has substantial technology-intensive exports, it will need to move up the ladder in terms of technology. Since investment in R&D has high gestation period, the OIF programme of the Bank can help companies get access to high technology by way of inorganic growth through the mergers and acquisition route overseas. Exporters in Andhra Pradesh can also achieve vertical integration through their overseas investments which will improve their efficiency and margins.

Buyer's Credit under the NEIA: Enterprises involved in large scale export infrastructure projects in the energy, resources and port sectors continue to look at the Export Credit Agencies to supplement and facilitate finance. Exports of projects and services can be broadly categorized into (i) civil construction projects, (ii) turnkey projects, (iii) consultancy services, and (iv) supplies, primarily by way of capital goods and industrial manufactures.

As noted earlier, there is substantial potential for capital goods exports from the State. However, the scope of these exports is fairly limited as developing countries are the major markets for India's project exports, and these countries demand medium- to long-term credits. With the BC-NEIA product, project exporters from the State can venture into new markets and help diversify the exports.

Market Development Assistance

Marketing Development Assistance (MDA) Scheme of the Government of India assists exporters for export promotion activities abroad. Entrepreneurs get funding for participating in trade delegations/ buyer seller meets/ fairs/ exhibitions. These initiatives have been proven to assist exporters for export promotion activities. A State-level MDA scheme can also be put in place for further encouraging participation of Indian exporters. The implementation of the scheme needs to be made segment specific, with focus on exporters in the high value added and technology intensive sectors.

Capacity Building of Industrial Clusters

Industrial clusters have been proven to have several advantages in promoting the growth of a particular sector or industry. It is recognized that enterprises can achieve high levels of competitiveness if they work in a cluster environment ensuring complementarities, common facilities, collective activities, including collective sourcing and marketing.

The State of Andhra Pradesh has several industrial clusters spread across an array of sectors. The development and upgrading of clusters will be an important agenda for the State Government. As an essential first step, the State needs to develop a mechanism for assessment of existing clusters in the State. The assessment can cover aspects pertaining to infrastructure bottlenecks, technological upgradation, access to skilled human resource, environmental sustainability, etc. Upon assessment of the clusters, relevant capacity building activities can be undertaken by the Government. The key elements of capacity building include construction of physical infrastructure, building institutions, and development of human resources.

Export Promotion Performance Measurement System

A quantitative performance based system needs to be developed for measuring the effectiveness of the strategies for export promotion. The parameters for assessment could include extent of utilization of common testing and certification facilities, number of firms seeking assistance from the proposed APEPC, training and capacity building activities undertaken by APEPC, number of branded products assisted / marketed through the brand equity fund, support provided by the State for compulsory certifications, etc. This performance can be matched with actual trade statistics for the State, and help in quantification of measurable goals for the next fiscal and devising the action plan.

CONCLUSION

India expects to increase its share in world exports from 2 percent to 3.5 percent by 2020. Contribution from various States would form the bedrock for achieving this target. Based on the country's target, it is projected that Andhra Pradesh must achieve US$ 25 billion of exports by 2020, under a baseline scenario. For the share of Andhra Pradesh to concomitantly increase in India's exports, exports need to further increase to US$ 39 billion by 2020. Under this optimistic scenario, share of the State in national exports shall increase from the current 5 percent to 7.5 percent by 2020.

To achieve the aforementioned targets, it will be essential for the State to focus on enhancing trade competitiveness, promoting innovation, bolstering availability of export finance, and strengthening the institutional capacity for exports, among others. The export strategies outlined in the current Study can help devise the roadmap and action plan for achieving the desired results.

1. INTRODUCTION

OVERVIEW

Andhra Pradesh is the eighth largest State of India in terms of geographical area and the tenth largest in terms of population. It has a 974 km long coastline on the east, and shares borders with the States of Odisha, Chhattisgarh, Telangana, Karnataka, Puducherry and Tamil Nadu. The State consists of 13 districts namely, Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam, Sri Potti Sriramulu Nellore, YSR Kadapa, Kurnool, Anantapur and Chittoor. Of these, nearly nine districts fall under the Coastal Andhra Pradesh, while Anantapur, Chittoor, Kadapa and Kurnool are part of the Rayalaseema region of Andhra Pradesh.

Spread over an area of 1,60,205 sq. km, the State has diverse topography ranging from the hills of Eastern Ghats and Nallamallas to the coast of Bay of Bengal. Owing to this diversity, the economy of the State is multi-faceted, with the coastal region providing requisite environment for development of manufacturing activities; the fertile river plains supporting agriculture and allied activities, and the districts in Rayalaseema being conducive for the mineral based industries.

The State boasts of fairly well developed infrastructure facilities which is favourable for most forms of economic activities. It has six operational ports, with 250 MMT capacities. This is supplemented by 46,000 km of road network, of which more than 90 percent are National Highways; 888 km of National Waterways for inland water transport; and 7,040 km of rail network.

Apart from the infrastructural facilities, the State also has a favourable policy environment which has enabled it to emerge as a favoured destination for investors. On account of the investor-friendly initiatives, it has been rated as the top State in the country in the Ease of Doing Business Ranking by the Department of Industrial Policy and Promotion (DIPP) - World Bank Assessment of State-level reforms related to doing business in India.

MACROECONOMIC PROFILE

Gross State Domestic Product (GSDP) is an important indicator to measure the growth and economic development in a State, and gauge the

structural changes in a State economy. It is equal to the income generated by the production of goods and services within the geographical boundaries of a State. The estimates of value added without any adjustments for the capital depreciation/ consumption is termed as Gross Value Added (GVA)[1].

The GSDP of Andhra Pradesh at constant (2011-12) prices registered a growth rate of 11.0 percent in 2015-16 to reach Rs. 4,93,641 Cr, reflecting positive economic progress in the State. The per capita income (Net State Domestic Product) at constant (2011-12) prices also registered a 10.1 percent growth during 2015-16 to reach a level of Rs. 87,487.

In fact, the State has consistently been among the top performing States of India. The growth in Andhra Pradesh's GSDP has been higher than the growth in the Gross Domestic Product (GDP) of India over the past three years (Table 1). Andhra Pradesh had the eighth highest GSDP in 2014-15. Rajasthan and Madhya Pradesh had GSDP in similar range as that of Andhra Pradesh (Exhibit 1).

The growth in GVA for Andhra Pradesh has also been robust, recording a CAGR of 6.8 percent during the period FY12-FY16. This growth can largely be attributed to the services sector which registered a CAGR of 10.4 percent during the same period. The GVA at constant (2011-12) prices is estimated to be Rs. 455484 Cr. in 2015-16, of which services accounted for the largest share (Table 2).

Table 1: Comparison of Gross State Domestic Product of Andhra Pradesh with the Gross Domestic Product of India (Rs. Cr.)

Year	Andhra Pradesh				India			
	GSDP at Current Prices	Growth %	GSDP at Constant (2011-12) Prices	Growth%	GDP at Current Prices	Growth %	GDP at Constant (2011-12) Prices	Growth%
2011-12	379230		379230		8736039		8736039	
2012-13	410961	8.37	379623	0.1	9951344	13.9	9226879	5.6
2013-14	468494	14.0	411886	8.5	11272764	13.3	9839434	6.6
2014-15	532922	13.75	444752	7.98	12488205	10.8	10552151	7.2
2015-16*	603376	13.22	493641	10.99	13567192	8.6	11350962	7.6

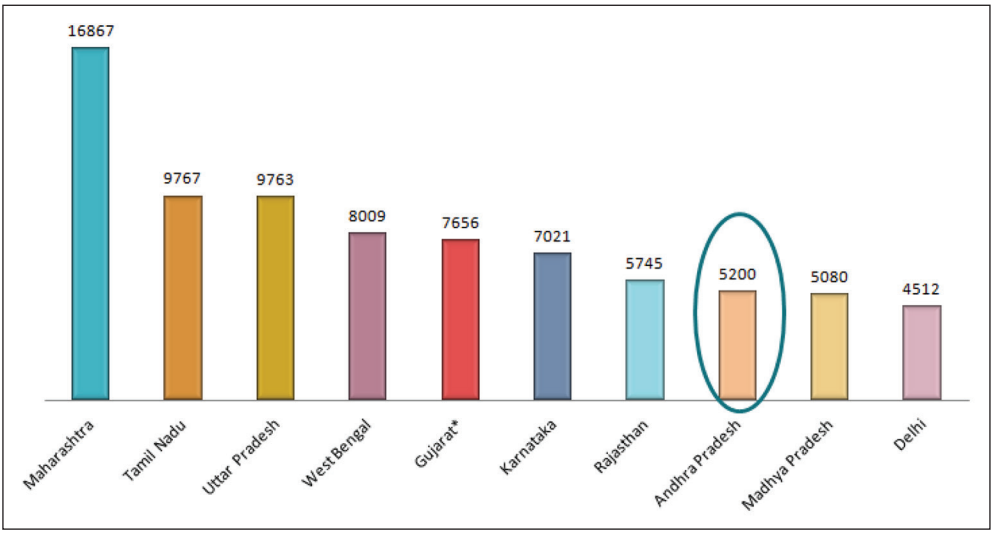
*Advance estimates

Note: GSDP data for 2014-15 is at slight variance with the data in Exhibit 1 on account of difference in data source

Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh

[1]Central Statistical Organisation

Exhibit 1: Top States of India in Terms of GSDP (Value in Rs. Bn; 2014-15)



*Data is for 2013
Source: MOSPI, Government of India, Exim Bank Research

Table 2: Sector-wise Gross Value Added (GVA)^ for Andhra Pradesh (Rs. Cr.)

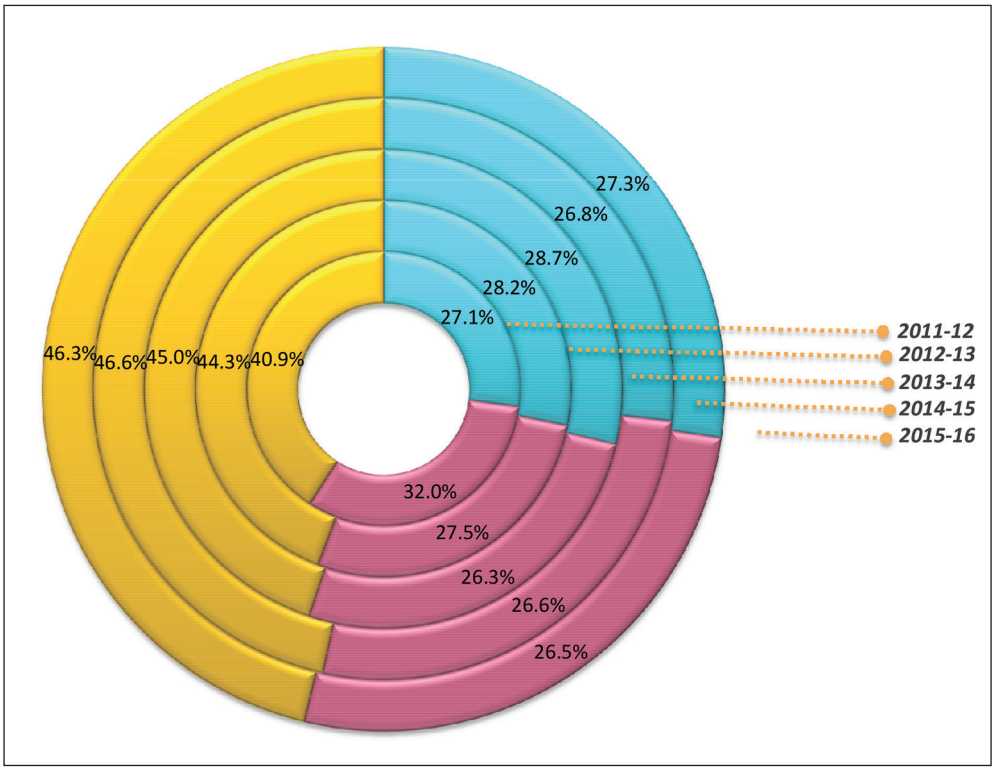
Sectors	2011-12	2012-13	2013-14	2014-15	2015-16*	CAGR (FY12-FY16)
Agriculture and Allied Activities	94751	98572	109204	112465	121915	6.5
Industry	111867	96363	100131	109045	121178	2.0
Services	142963	155108	170944	190678	212391	10.4
Total GVA	349581	350043	380279	412188	455484	6.8

^GVA at constant (2011-12) prices
*Advance estimates
Note: GSDP = GVA at Basic Prices+ Product Taxes-Product Subsidies
Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh

The share of services in the GVA of Andhra Pradesh has increased from 41 percent in 2011-12 to 46 percent in 2015-16. On the other hand, the share of industry has declined from 32 percent in 2011-12 to 27 percent in 2015-16 (Exhibit 2).

While economic growth in the State has been resilient to the global shocks and slowdown in recent times, sustained growth and development in any economy entails price stability. There are several inflation indicators which measure the rise in the

Exhibit 2: Change in the Structure of the Andhra Pradesh Economy

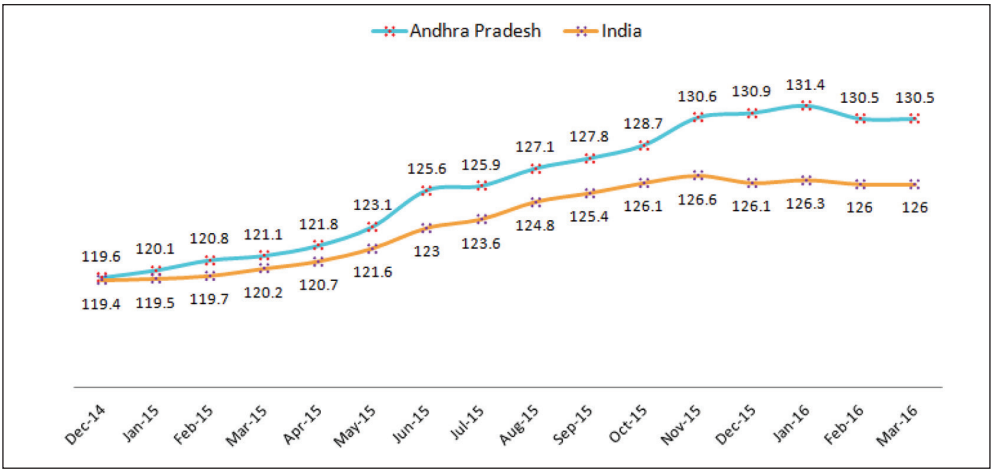


Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh, Exim Bank Research

general price level. Consumer Price Index (CPI) measures the changes over time in the level of prices of goods and services that a reference population acquires, uses, or pays for consumption.

A comparison of CPI at the State and all India level suggests higher level of average prices and more volatile movements in the case of Andhra Pradesh. In March 2016, the CPI (Base: 2012=100) for Andhra Pradesh registered a year-on-year (y-o-y) increase of 7.8 percent. This was three percentage points higher than the inflation at an all India level during the same month. Moreover, the CPI for Andhra Pradesh has been more volatile during the period December 2014 - March 2016, with its standard deviation being 4.2, as against 2.7 at an all India level (Exhibit 3).

Exhibit 3: Monthly Movements in Consumer Price Index (Base: 2012 = 100)



Source: MOSPI, CMIE, Exim Bank Research

KEY ECONOMIC ACTIVITIES

Agriculture Sector

As far as the contribution to the Gross Value Added in the agriculture and allied activities is concerned, crops (agriculture and horticulture) accounted for the largest share (13 percent) in 2015-16, followed by livestock, and fishing and aquaculture (Exhibit 4).

Fishing and aquaculture has been one of the fastest growing segments within the sector, witnessing a CAGR of 18.5 percent during the period FY12-FY16 (Table 3). The fishery segment contributes to the economy by way of exports, and is also a major source of employment with nearly 1.4 million people directly or indirectly engaged in the sector.

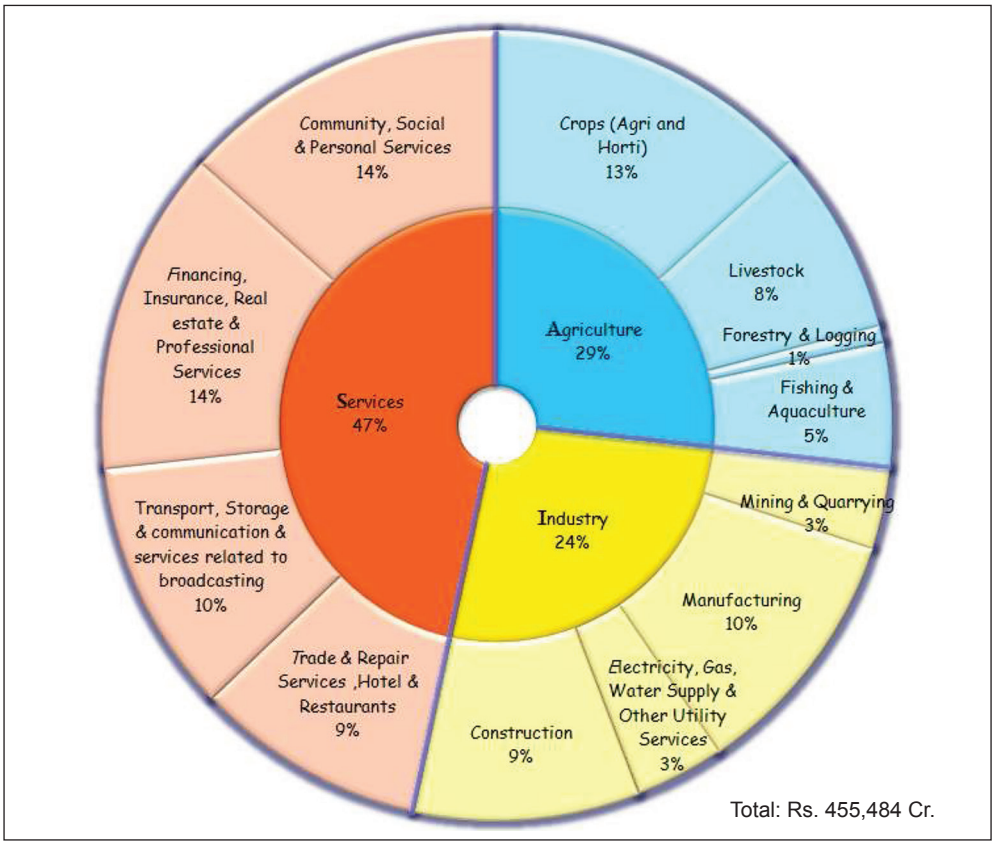
Livestock segment has also witnessed steady growth during FY12-FY16, recording a CAGR of 5.9 percent during this period. Nearly half of the households in the State are engaged in livestock/ livestock related rearing activities.

Table 3: Key Economic Activities under the Agriculture Sector (Value in Rs. Cr.)

Economic Activities	2011-12	2012-13	2013-14	2014-15	2015-16	CAGR (FY12-FY16)
Crops (Agriculture and Horticulture)	52041	52583	60811	60499	60690	3.9%
Livestock	27588	29247	29723	31217	34719	5.9%
Forestry and Logging	3246	3197	3154	3129	3108	-1.1%
Fishing and Aquaculture	11877	13546	15516	17621	23397	18.5%

Note: Values refer to GVA at constant (2011-12) prices
Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh, Exim Bank Research

Exhibit 4: Gross Value Added by Major Economic Activities (2015-16)



Note: GVA at constant (2011-12) prices
Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh, Exim Bank Research

Industrial Sector

Manufacturing and construction are the top economic activities under the industrial sector (Exhibit 4). The contribution of both these activities in the GVA declined during FY13, but has grown steadily since then. In spite of the secular increase over the past three years, the GVA at constant (2011-12) prices for the manufacturing sector has registered a negative CAGR of 1.6 percent during FY12-FY16. Consequently, manufacturing accounted for nearly 10 percent of the total GVA in 2015-16- a four percentage point decrease from 2011-12.

On the other hand, construction activities, which provide vigour to economies on account of the multiplier effect emanating from these activities, have witnessed recovery over the last three years. The CAGR for GVA by construction activities during FY12-FY16 period was 3.8 percent (Table 4).

Table 4: Key Economic Activities under the Industrial Sector (Value in Rs. Cr.)

Economic Activities	2011-12	2012-13	2013-14	2014-15	2015-16	CAGR (FY12-FY16)
Mining and Quarrying	14162	14284	12063	13587	15079	1.6%
Manufacturing	50706	40202	40565	42820	47453	-1.6%
Electricity, Gas, Water Supply and Other Utility Services	10765	7345	11013	14251	16629	11.5%
Construction	36234	34532	36491	38387	42016	3.8%

Note: Values refer to GVA at constant (2011-12) prices
Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh, Exim Bank Research

Services Sector

Community, social and personal services which largely comprises government spending, was the largest contributor to GVA in the services sector. The segment registered a robust CAGR of 10.4 percent during the period FY12-FY16 (Table 5). Financing, insurance, real estate and professional services had the second largest share in the services sector, and witnessed a CAGR of 9.3 percent during FY12-FY16.

Trade and repair services, hotel and restaurants segment recorded the highest CAGR of 12.8 percent during the period under consideration, indicative of the growing tourism and hospitality industry in the State. In 2014, the State accounted for nearly 7.3 percent of the total domestic tourist visits. However, the performance in terms of foreign tourist arrivals has been less encouraging.

Table 5: Key Economic Activities under the Services Sector (Value in Rs. Cr.)

Economic Activities	2011-12	2012-13	2013-14	2014-15	2015-16	CAGR (FY12-FY16)
Trade and Repair Services, Hotel and Restaurants	26736	29781	35214	38404	43255	12.8%
Transport, Storage and communication and services related to broadcasting	32569	35521	38849	43412	47266	9.8%
Financing, Insurance, Real estate and Professional Services	42417	47074	50304	55338	60607	9.3%
Community, Social and Personal Services	41242	42733	46578	53524	61264	10.4%

Note: Values refer to GVA at constant (2011-12) prices
Source: Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh, Exim Bank Research

RESOURCE PROFILING

An analysis of the resources profile of the State can shed light on the areas in which it has competitive advantage. This can help in identification of the latent export potential in the State and devising strategies for achievement of sustainable development.

Agriculture

Identification of agro-climatic zones is an essential first step towards development of strategies for increasing agricultural production. In 1987, 15 agro-climatic regions were identified in India on the basis of soil, temperature, rainfall and captive water resources. These regions have been further classified into 126 agro-climatic zones under the National Agricultural Research Project (NARP) launched by the Indian Council of Agricultural Research.

Andhra Pradesh falls under two agro-climatic regions- 'East Coast Plains and Hills Region' and 'Southern Plateau and Hills Region'. It has six agro-climatic zones which can support diverse crops (Table 6). The high altitude and tribal zone is conducive for horticulture crops whose contribution to the State economy has been rising. Major crops such as paddy, cotton and groundnut are suited for several of the agro-climatic zones.

Table 6: Agro-Climatic Zones in Andhra Pradesh

NARP Zone	Districts	Suitable Crops
East Coast Plains and Hills Region		
Krishna/ Godavari Zone	West Godavari, Krishna, Guntur and Part of East Godavari (excluding uplands), and Prakasam.	Rice, Cotton, Black gram, Green gram, Groundnut, Fodder, Tobacco, Sugarcane, Chillies, Coconut, Sesamum.
North Coastal Zone	Srikakulam, Vizyanagaram, Visakhapatnam districts and upland taluks of East Godavari District.	Rice, Black gram, Green gram, Groundnut, Sugarcane, Sesame, Pearl millet, Mesta, finger millets, Horse gram.
Southern Zone	Nellore, Chittoor, southern parts of Prakasam and Kadapa and eastern parts of Anantpur districts.	Rice, Red gram, Groundnut, Pearl millet, finger millets, Horse gram, Sorghum.
High Altitude and Tribal Zone	East Godavari	Rice, Groundnut, Pearl millet, finger millets, Sesamum, Tuber crops, Forestry & Horticulture crops.
Godavari Zone	West Godavari, Guntur and Part of East Godavari (excluding uplands), and Prakasam.	Rice, Cotton, Black gram, Green gram, Groundnut, Fodder, Tobacco, Sugarcane, Chillies, Coconut, Sesamum.
Southern Plateau and Hills Region		
Scarce Rainfall Zone of Rayalaseema	Kurnool, Anantpur (except south-eastern part), western part of Prakasam, and north-western parts of Kadapa.	Groundnut, Sorghum, Seteria, Rice, Cotton, Coriander, and Pearl millets.

Source: DACNET

Mineral

Mineral resources are of paramount importance in industrial activities. They enter the production cycle of several industries in the form of raw materials and help build up prosperity in an economy. Andhra Pradesh currently has vast tracts of under-tapped and untapped mineral resources.

Andhra Pradesh is a mineral rich State and mining activities in 42 industrial minerals are currently carried out in various districts of the State. The State accounts for 94 percent barytes, 78 percent kyanite, 10 percent corundum, 61 percent ball clay, 20 percent limestone, 41 percent mica and 34 percent garnet resources of the country[2] (Table 7).

It had the second largest number of 'mines reporting mineral production' in India during 2014-15. With 444 reporting mines in 2014-15, the State accounted for nearly 13.3 percent of the reporting mines[3]. The State also accounted for 8.25 percent of the country's total mineral production in 2014-15. Andhra Pradesh also had the largest share of 23.5 percent in the total value of production of minor minerals in 2013-14.

Table 7: Total Mineral Resources in Andhra Pradesh (including Telangana) as on 1.4.2010

Minerals	Units	Quantity	Districts	Share in India
Apatite	Tonnes	237862	Visakhapatnam	1%
Ball clay	Tonnes	51281299	West Godavari	61%
Barytes	Tonnes	68478435	Anantapur, Kadapa, *Khammam*, Krishna, Kurnool, Nellore and Prakasam	94%
Bauxite	Thousand tonnes	615267	East Godavari and Visakhapatnam	18%
Calcite	Tonnes	8798785	Anantapur, Kadapa, Kurnool and Visakhapatnam	42%
China clay	Thousand tonnes	74176	*Adilabad*, Anantapur, Chittoor, Kadapa, East Godavari, West Godavari, Guntur, Kurnool, *Mahabubnagar, Nalgonda*, Nellore, *Rangareddi*, Visakhapatnam and Warangal	3%
Copper Ore	Thousand tonnes	8248	Guntur, *Khammam*, Kurnool and Prakasam	1%

[2]Data for mineral resources and production in this Study includes the data for the State of Telangana
[3]Excluding atomic minerals, petroleum (crude), natural gas (utilized) and minor minerals

Copper Metal	Thousand tonnes	122.82		1%
Corundum	Tonnes	77121	Anantapur and *Khammam*	10%
Diamond	Carat	1822955	Anantapur, Krishna and Kurnool	6%
Dolomite	Thousand tonnes	1182453	Anantapur, *Khammam*, Kurnool and *Warangal*	15%
Feldspar	Tonnes	21798561	Anantapur, Kadapa, West Godavari, *Hyderabad*, *Khammam, Mahabubnagar, Medak*, Nellore, *Rangareddy* and Vizianagaram	16%
Fireclay	Thousand tonnes	23214	*Adilabad*, Chittoor, Kadapa, East Godavari, West Godavari, Kurnool, *Nalgonda* and Srikakulam	3%
Fuller's earth	Tonnes	25523983	*Medak* and *Rangareddy*	10%
Garnet	Tonnes	19064747	East Godavari, *Khammam* and Nellore	34%
Gold Ore (primary)	Tonnes	12275347	Anantapur, Chittoor and Kurnool	3%
Gold Metal(primary)	Tonnes	35.72		5%
Granite (Dim. stone)	Thousand cu m	2405890	Anantapur, Chittoor, Kadapa, Guntur, *Karimnagar*, Khammam, Krishna, *Mahabubnagar, Medak, Nalgonda*, Nellore, Prakasam, *Rangareddy*; Srikakulam, Vizianagaram and *Warangal*	5%
Iron Ore (hematite)	Thousand tonnes	381477	Anantapur, Kadapa, Guntur, *Khammam*, Krishna, Kurnool and Nellore	2%
Iron Ore (magnetite)	Thousand tonnes	1463541	*Adilabad*, Prakasam and *Warangal*	14%
Kyanite	Tonnes	80354228	*Khammam*, Nellore and Prakasam	78%
Laterite	Thousand tonnes	26257	East Godavari, *Warangal, Rangareddy*	6%
Lead-zinc ore	Thousand tonnes	22689	Kadapa, Guntur and Prakasam	3%
Lead metal	Thousand tonnes	836.88		7%
Zinc metal	Thousand tonnes	63.16		0%

Limestone	Thousand tonnes	37436378	*Adilabad*, Anantapur, Kadapa, East Godavari, West Godavari, Guntur, *Hyderabad, Karimnagar*, Krishna, Kurnool, *Mahabubnagar, Nalgonda*, Nellore, *Rangareddy*, Srikakulam, Visakhapatnam and Vizianagaram	20%
Manganese ore	Thousand tonnes	17598	*Adilabad*, Srikakulam and Vizianagaram	4%
Mica	Tonnes	220786	*Khammam* and Nellore	41%
Ochre	Tonnes	10883065	Kadapa, West Godavari, Guntur, Kurnool and Visakhapatnam	8%
Pyrophyllite	Tonnes	1350232	Anantapur	2%
Quartz silica sand	Thousand tonnes	209032	Anantapur, Chittoor, Kadapa, West Godavari, Guntur, Hyderabad, *Khammam*, Krishna, Kurnool, *Mahabubnagar, Medak, Nalgonda*, Nellore, Prakasam, *Rangareddy*, Srikakulam, Visakhapatnam, Vizianagaram and *Warangal*	6%
Quartzite	Thousand tonnes	23583	Kurnool, Srikakulam, Visakhapatnam and Vizianagaram	2%
Sillimanite	Tonnes	9644500	West Godavari	14%
Shale	Thousand tonnes	15911	East Godavari, West Godavari	100%
Slate	Thousand tonnes	2369	Kadapa	100%
Silver Ore	Tonnes	16950000	Guntur	4%
Silver Metal	Tonnes	128.13		0%
Talc/soapstone/ steatite	Thousand tonnes	11244	Anantapur, Chittoor, Kadapa, *Khammam* and Kurnool	4%
Titanium minerals	Tonnes	76702509	East Godavari, Krishna, Nellore, Srikakulam and Visakhapatnam	19%
Tungesten Ore Contained	Tonnes	14802300	East Godavari	17%
Tungsten WO3	Tonnes	20262.57		14%
Vermiculite	Tonnes	354176	Nellore and Visakhapatnam	14%

Districts in italics are now part of Telangana
Source: Indian Minerals Yearbook 2014, Indian Bureau of Mines, March 2016

Human Capital

Andhra Pradesh has a strong human capital base to leverage the bountiful natural resources in the State. Higher education and skill development have received substantial focus which is evident by the State's ranking amongst the top three States in India in terms of number of colleges per lakh population. The State has several institutions of higher education offering basic, specialised, and research-focused courses with a total strength of nearly 11.64 lakh students (Table 8). The gross enrolment ratio has been a focus area for the government and currently stands at 20.0 percent.

OUTLOOK

With the exclusion of Hyderabad from the divided State of Andhra Pradesh, the State faces challenges in terms of revenue deficit and infrastructural constraints. However, the coalescence of proactive policy, vibrant resource profile, and locational advantages will ensure that the long term growth story for the State remains resolutely positive.

Table 8: Key Indicators of Human Capital in Andhra Pradesh

Indicator	Value / Share
Population	4.93 Cr
Population growth rate	9.2%
Proportion of youth (18 – 23 years) to total population	11.7%
Percentage of total State budget allotted to higher education	2.6%
Public expenditure on higher education as a percentage of GSDP	0.5%
Current student enrolment in higher education	11.64 lakh
Literacy rate	67.3%
Gross Enrolment Ratio in higher education	20.02%
College per lakh population	48*
Average enrolment per college	342.7
Number of skill development centres set up in the last 2 years	41

* Refers to data for the undivided State of Andhra Pradesh, other data calculated by taking united state data as proxy indicator

Source: Sunrise State of Andhra Pradesh: Knowledge Mission Document, 2015

2. ECONOMIC SCENARIO

AGRICULTURE AND ALLIED SECTOR

Agriculture and allied sector is the bedrock of Andhra Pradesh's economy as it accounts for nearly 27 percent of the total State output. Alongside, it is also a major source of livelihood for the population, especially in the rural areas. With six agro-climatic zones and five types of soil, there is potential to grow variety of crops in the State. Currently, nearly 38 percent (62.35 lakh hectares) of the State's geographical area is under net area sown, of which two-third is under food grains. Fishery, dairy, meat and poultry sectors also have a considerable influence on the economy.

Production Scenario

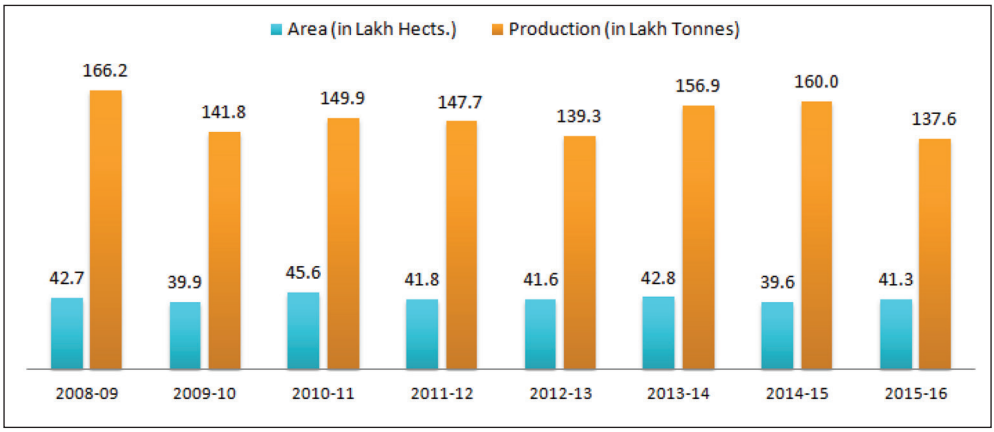
A favourable agro-climatic condition and long coastline has enabled agriculture and allied activities to be a key sector for Andhra Pradesh in terms of output, employment and foreign exchange. Andhra Pradesh is one of the largest producers of rice, maize, groundnut, sunflower, cotton, etc. in the country. It also ranks first in the production of brackish water shrimp and fresh water prawn, and second in production of fresh water fish. The State also ranks first in combined production of fresh water fish and prawn and fourth in marine fish production. The State boasts of a developed animal husbandry sector as well.

Food Grains

During 2015-16, productivity was adversely impacted on account of drought situations during Kharif season and heavy rains in November 2015. While the area under food grains production increased by 4.2 percent during the year to reach 41.3 lakh hectares, production declined by (-) 14 percent to become 137.6 lakh tonnes (Exhibit 5).

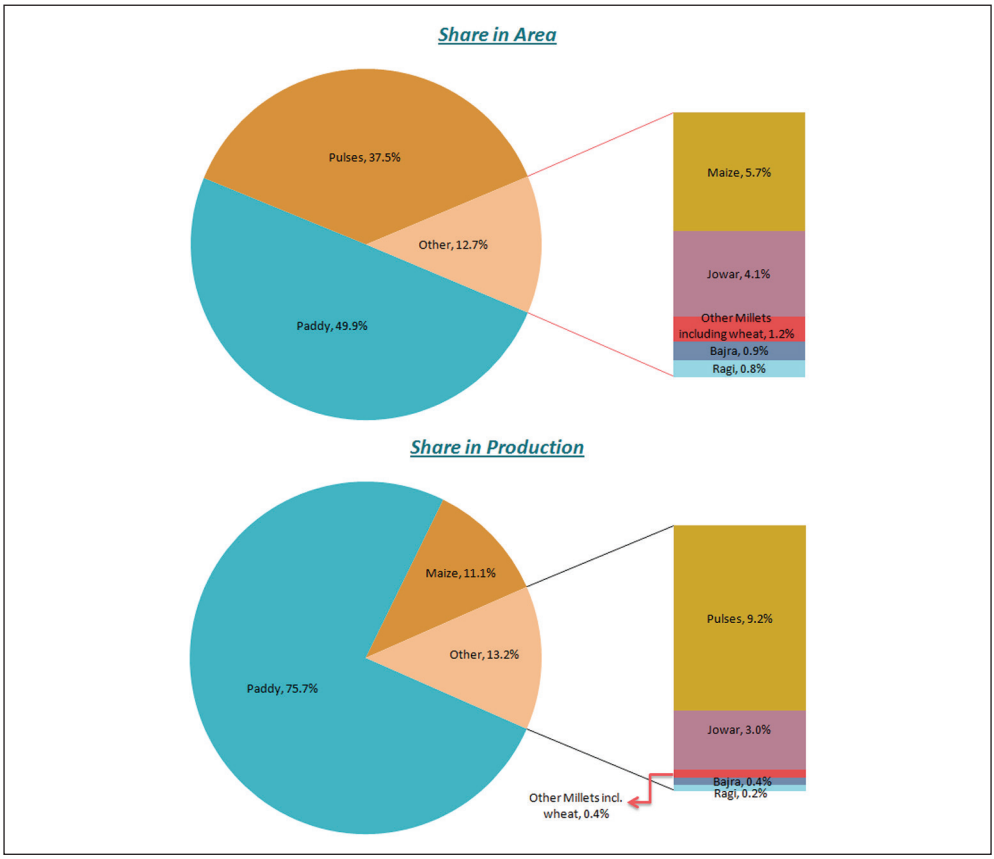
Within food grains, paddy accounts for the largest share in area under cultivation (49.9 percent) as well as production (75.7 percent). In fact, Andhra Pradesh is referred as "the bejewelled rice bowl of India". Another important food grain produced in the State is Maize, which had the second largest share in food grain production in 2015-16. During the same year, pulses, which accounted for 37.5 percent share in area under cultivation, had a share of merely 9.2 percent in production (Exhibit 6).

Exhibit 5: Production and Area under Cultivation in Andhra Pradesh



Source: Directorate of Economics and Statistics, Andhra Pradesh; Exim Bank Research

Exhibit 6: Share of Food Grains in Area under Cultivation and Production (2015-16)



Source: Directorate of Economics and Statistics, Andhra Pradesh; Exim Bank Research

Horticulture

Indian agriculture has undergone a substantial structural change in the recent years, with horticulture emerging as an important sub-segment. A similar trend has been noted in the agriculture and allied sector of Andhra Pradesh, and large variety of horticulture products are currently grown in the State.

West Godavari district of the State has immense potential for growing cashew, mango, coconut, oil palm, banana, cocoa, citrus, sapota, guava, vegetables, pepper, flowers, medicinal and aromatic plants. The presence of land, irrigation and other infrastructure facilities provide an enabling environment for development of horticulture in the district. The Guntur district of the State has extensive cultivation of chillies. Other important horticulture crops cultivated in Guntur district are banana, sweet orange, mango, acid lime, sapota, papaya, guava and turmeric.

The overall area under horticultural cultivation in the State amounted to 14.74 lakh hectare in 2015-16, accounting for 6.3 percent of the total area under horticulture cultivation for the whole of India. Horticulture production in Andhra Pradesh was 188.22 lakh MTs in 2015-16 (most of which was accounted for by fruits). This constituted nearly 6.7 percent of the total horticultural production of India (Table 9). Banana, citrus, mango and papaya are the major fruits produced in the State, while brinjal, tomato, okra, onion and tapioca are the major vegetables[4].

Andhra Pradesh accounted for 11.3 percent of fruits, 3.2 percent of vegetables, 6.3 percent of flowers, 14.3 percent of plantation crops, 17.8 percent of spices and 0.8 percent of the medical and aromatic plants production of India in 2015-16 (Table 9). As compared to the rest of India, productivity was higher in all horticultural products other than flowers where the State's share in India's total horticultural production was lesser than its share in India's total area under horticultural cultivation.

Animal Husbandry

There is a close relationship between animal husbandry and agriculture in the rural economy of India. Animals not only yield food products, but also provide manure, fuel, hides and skins, etc. Statistics reveal the overwhelming influence of this sector on the State economy. According to the Livestock Census 2012, nearly half of the households in the State were engaged in livestock or livestock related rearing activities. The State had 294.0 lakh livestock population comprising 47.2 lakh cattle, 64.6 lakh buffaloes, 135.6 lakh sheep, 45.0 lakh goats, 1.6 lakh pigs, and 0.1 lakh other livestock. Among all States of

[4]CII-Yes Bank, Make in India- Opportunities in Food Processing Sector

Table 9: Horticulture Production and Area under Production in Andhra Pradesh (2015-16)

Crop Category	Area (Lakh ha.)	Production (Lakh MTs)	Share in Total Area under Cultivation for India	Share in Total Production for India
Fruits	5.76	100.48	9.3%	11.3%
Vegetables	2.33	53.26	2.5%	3.2%
Flowers	0.17	1.35	6.8%	6.3%
Plantation Crops	4.27	22.14	12.1%	14.3%
Spices	2.21	10.9	6.7%	17.8%
Medicinal and Aromatic Plants	0.005	0.09	0.1%	0.8%
Total	**14.74**	**188.22**	**6.3%**	**6.7%**

Source: Horticulture Department, Government of Andhra Pradesh; National Horticulture Board; Exim Bank Research

India, Andhra Pradesh had the largest sheep population. It also ranked third in the country in terms of poultry population.

On account of the abundant livestock population, the State is one of the largest producers of animal products in the country. It ranked second in egg production, fourth in meat production and sixth in milk production. Over the past decade, production of milk and meat has grown more or less consistently, except for a few bouts of decline. Egg production registered a y-o-y decline of 1.1 percent in 2013-14, but recovered in 2014-15 with production growing by 2.9 percent (Table 10).

Fisheries

The 974 km long coastline of Andhra Pradesh, 33,327 square kilometres of continental shelf and about 6 lakh hectares of fresh and brackish water resources provide ample opportunities for a thriving fisheries sector. The sector directly or indirectly provides employment to nearly 1.4 million people and is an important source of foreign exchange earnings. The importance of the segment is evident from the fact that fisheries contributed nearly 5.4 percent to the gross value added of the State in 2015-16.

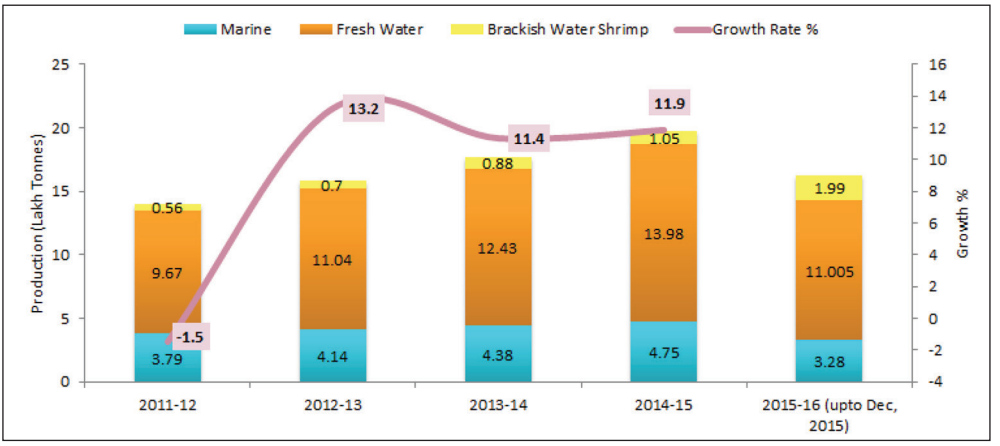
After witnessing a decline of 1.5 percent in 2011-12, the output from fisheries sector registered double digit growth rates in the following three years. The production of brackish water shrimp has witnessed the maximum vibrancy during the past three years. During April-December 2015, fisheries production from the State amounted to 16.3 lakh tonnes (Exhibit 7).

Table 10: Production Estimates for Dairy and Meat Products in Andhra Pradesh

Year	Milk ('000 MTs)	Y-o-Y Growth	Meat ('000 MTs)	Y-o-Y Growth	Eggs (Lakh Nos.)	Y-o-Y Growth
2003-04	4727		192		82011	
2004-05	5358	13.4%	230	19.8%	107601	31.2%
2005-06	5290	-1.3%	264	14.7%	101077	-6.1%
2006-07	5506	4.1%	272	3.3%	95218	-5.8%
2007-08	6193	12.5%	313	15.0%	105058	10.3%
2008-09	6640	7.2%	310	-0.9%	108925	3.7%
2009-10	7238	9.0%	349	12.6%	113932	4.6%
2010-11	7734	6.9%	384	9.8%	116383	2.2%
2011-12	8402	8.6%	440	14.7%	122440	5.2%
2012-13	8810	4.9%	478	8.5%	128740	5.1%
2013-14	9083	3.1%	489	2.3%	127269	-1.1%
2014-15	9656	6.3%	528	8.0%	130958	2.9%
2015-16 (upto Sep,2015)	5153		275		66857	

Source: Animal Husbandry Department, Government of Andhra Pradesh, Exim Bank Research

Exhibit 7: Category-wise Production in the Fishery Sector



Source: Commissioner of Fisheries, Exim Bank Research

Food Processing

Food processing industry is classified into two groups, viz. primary food and processed food. While primary food refers to activities such as rice mills, flour mills, oilseed crushing, spice grinding, etc., the processed food segment consist of value added manufacturing such as preserved fruits and vegetables, frozen foods,

fish and dairy products, spice blends, etc. As per the latest available data, grain mill products formed the largest category of registered food processing units in India in 2012-13.

Andhra Pradesh has been focusing on value addition in the agriculture sector and a host of policies are currently in place to provide a boost to the food processing sector. On account of the favourable environment, the State possesses the maximum number of registered food processing units (5,735 units) in the country, accounting for 15 percent of the total units in India. Andhra Pradesh is closely followed by Tamil Nadu with 5,161 food processing units while the newly formed State of Telangana ranks third with 3,716 units[5].

A sample of 24 companies engaged in the food products sector in Andhra Pradesh was taken to analyse the key characteristics of this sector. The aggregate sales of these companies registered a consistent increase during the period 2010-11 to 2014-15. The aggregate profit after tax, on the other hand, registered a decline in 2013-14, and thereafter witnessed recovery in 2014-15. The average share of exports in total sales of the companies recorded secular decline in this period from 29.3 percent in 2010-11 to 17.4 percent in 2014-15, reflective of the declining export orientation. In line with this trend, total foreign exchange earnings of these companies also declined during the past two years. On the other hand, the foreign exchange spending reached its highest level in five years in 2014-15 (Table 11).

Table 11: Key Aggregate Industry Financials for Select Food Products Companies with Plants in Andhra Pradesh (Value in Rs. Million)

Parameters	2010-11	2011-12	2012-13	2013-14	2014-15
Total Sales	357027.4	511960.7	564612.4	606575.0	664237.9
Total PAT	7154.2	8638.4	14497.3	12365.9	14394.6
Export/Sales (Avg; %)	29.3	25.1	19.8	19.1	17.4
Raw Material Imports / Raw Material Purchases (Avg; %)	9.9	6.4	7.3	6.8	6.7
Total Forex Earnings	69777.5	93542.2	101404	97241.7	85182.0
Total Forex Spending	91538.8	122282.8	169746.9	155502.9	204013.3

Sample Size- 24 Companies
Source: CMIE Prowess; Exim Bank Research

[5]Ministry of Food Processing Industries, Government of India

INDUSTRIAL SECTOR

According to the Annual Survey of Industries 2013-14, Andhra Pradesh accounts for nearly 7 percent of the total number of factories in the country, with food products accounting for the largest share of 28.99 percent in the total output from the State. The other major industries contributing to the total output are coke and refined petroleum products (share of 15.44 percent), basic metals (15.13 percent), chemical and chemical products (6.51 percent), other non-metallic mineral products (5.78 percent) and textiles (5.64 percent).

The role of manufacturing sector in economic development and employment generation cannot be overemphasized. The sector invariably looms large on the policy agenda of State Governments. It is therefore a matter of concern that the growth of manufacturing sector in Andhra Pradesh has been lower than the national average[6]. Moreover, the industrial sector accounts for nearly 24 percent of gross value added in Andhra Pradesh which is lower than the share of industry in the GDP at the all India level. Given the crucial role of the manufacturing sector in propelling employment generation, it is essential to alleviate the growth constraints in the sector.

Production Scenario

The Index of Industrial Production (IIP) is a measure for industrial growth, estimated monthly by collecting data pertaining to manufacturing, mining, quarrying and electricity. After registering consecutive years of decline in 2012-13 and 2013-14, general index for IIP for the State of Andhra Pradesh increased by 3 percent during 2014-15. During April-October 2015-16, the general index for IIP registered a marginal decline of 0.1 percent. This was largely on account of a decline of (-) 8.2 percent in the IIP for mining and quarrying. The IIP for manufacturing sector had risen by 8.0 percent during April-October 2015-16, as compared to the corresponding period of previous year (Table 12).

Engineering goods registered robust growth during Apr-Oct 2015-16, with the industry groups of medical, precision and optical, electrical machinery and parts, other transport equipment, machinery and equipment, and office accounting and computing machinery witnessing double digit y-o-y growth rates during this period. Food products and beverages which have nearly 16.5 percent weight in the IIP for industries, registered a robust y-o-y growth rate of 12.3 percent during the same period.

[6]White Paper on Industry, Infrastructure and Employment, Industries and Commerce Department, Government of Andhra Pradesh, July 2014.

Table 12: Index of Industrial Production for Andhra Pradesh (Base: 2004-05)

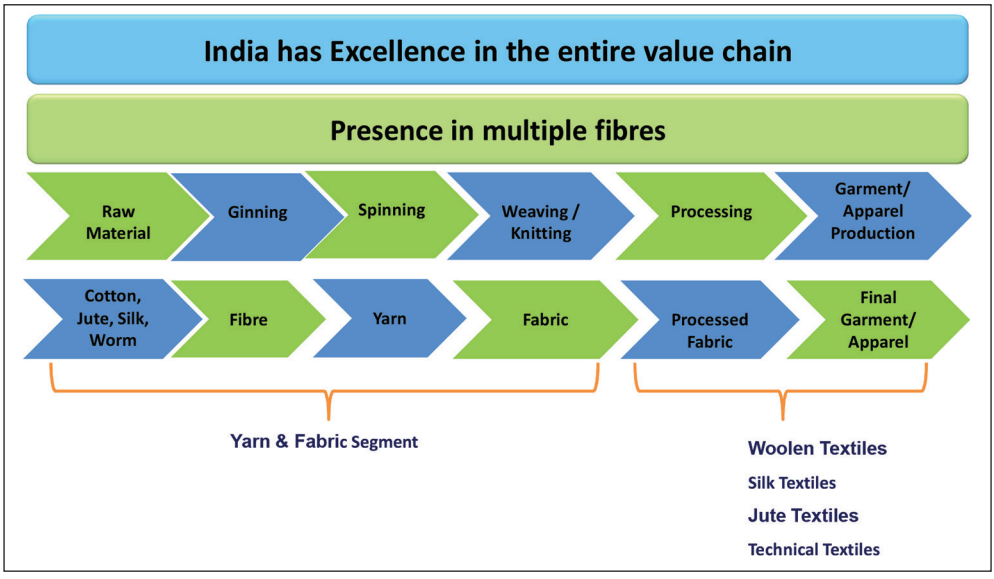
Segment	Weights	2011-12	2012-13	2013-14	2014-15	2015-16 (Apr-Oct)	Growth % (Apr-Oct 2015-16)
Mining and Quarrying	212	153	215	178.6	161	396.8	-8.2
Manufacturing	631	153	144	145.6	151.9	125.8	8.0
Electricity	157	159	150.4	156.1	178	181.4	6.1
General Index	***1000***	***161***	***160.1***	***154.2***	***158.9***	***191.9***	***-0.1***

Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh, Exim Bank Research

Textile and Garment

The Textile and Apparel value chain comprises various segments such as ginning, spinning and extrusion, processing, weaving and knitting, and garment manufacturing. Ginning is the process wherein fibres are separated from seeds. Thereafter, in the spinning process, fibre is converted to yarn. At the weaving and knitting stage, yarn is converted to woven or knitted fabrics. Next step in the value chain is bleaching and dying of the fabric to produce processed fabric. This processed fabric is then designed, cut, embellished, stitched, finished, packaged and sent for distribution (Exhibit 8). In composite mills, spinning, weaving and dying activities are integrated.

Exhibit 8: Indian Textile and Garment Industry: Value Chain



The Indian textile industry consumes a diverse range of fibres and yarn, but is predominantly cotton based. The agro-climatic condition in Andhra Pradesh is conducive for the production of cotton. In 2014-15, Andhra Pradesh was the fifth largest producer of cotton accounting for 6.8 percent of the total cotton produced in the country. Gujarat, Maharashtra, Telangana and Karnataka were the other major producers of cotton during the year. The yield of cotton in Andhra Pradesh was 624 kgs per hectare, which was higher than the average yield of 537 for the whole of India but significantly lower than other states like Gujarat, Tamil Nadu and Rajasthan (Table 13).

Andhra Pradesh also has the second largest silk production in the country after Karnataka. With 5086 MT of production in 2015-16, the State accounted for nearly 17.9 percent of the total silk production in India. In 2015-16, production of silk in Andhra Pradesh witnessed a precipitous decline of (-) 21.6 percent (Table 14). On account of the abundant availability of the silk fibre, the State has several renowned silk handloom weaving centres, namely Dharmavaram, Peddapuram, Uppada, Venkatagri, etc.

Apart from cotton and silk, the State is also an important producer of wool.

Table 13: State-wise Area, Production and Yield of Cotton (2014-15)

State	Area (Lakh Hectare)	Production (Lakh Bales)	Yield (Kgs per Hectare)
Gujarat	30.06	125	707
Maharashtra	41.92	85	345
Telangana	16.51	50	515
Karnataka	7.6	28	626
Andhra Pradesh	7.36	27	624
Haryana	6.39	25	665
Madhya Pradesh	5.79	18	528
Rajasthan	4.16	17	695
Punjab	4.5	14	529
Tamil Nadu	0.7	5	1214
Orissa	1.25	4	544
Others	0.31	2	1097
Grand Total	**126.55**	**400**	**537**

Source: Cotton Advisory Board, Ministry of Textiles, Government of India

Table 14: State-wise Raw Silk Production in India (Values in MT)

State	2012-13	2013-14	2014-15	2015-16 (P)
Karnataka	8219	8574	9645	9823
Andhra Pradesh	6550	6912	6485	5086
West Bengal	2070	2079	2500	2391
Tamil Nadu	1185	1120	1602	1898
Jharkhand	1090	2003	1946	2284
Assam and Bodoland	2068	2766	3222	3325
Others	2,497	3,026	3,308	3,665
Total	**23,679**	**26,480**	**28,708**	**28,472**

(P)- Provisional
Source: Ministry of Textiles, Government of India

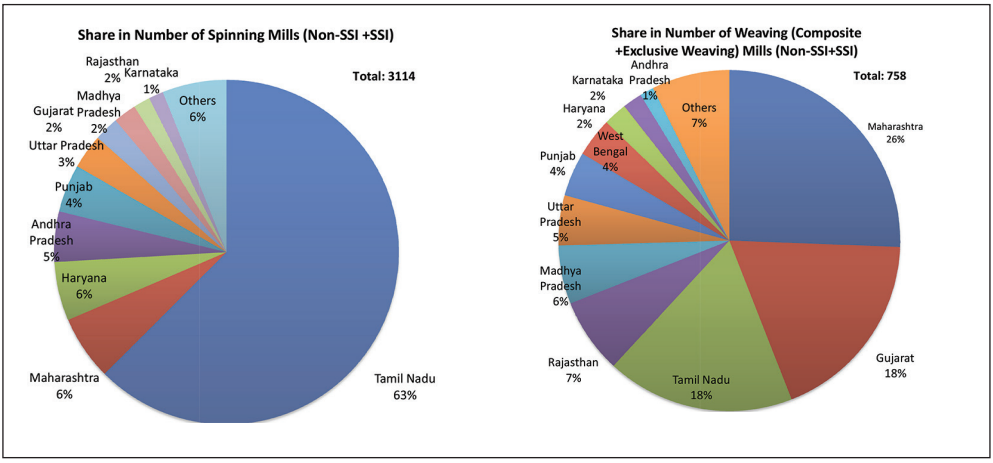
Andhra Pradesh was the fourth largest wool producing State in 2014-15, with a production of 5 million kg. The State accounted for nearly one-tenth of the total indigenous wool production.

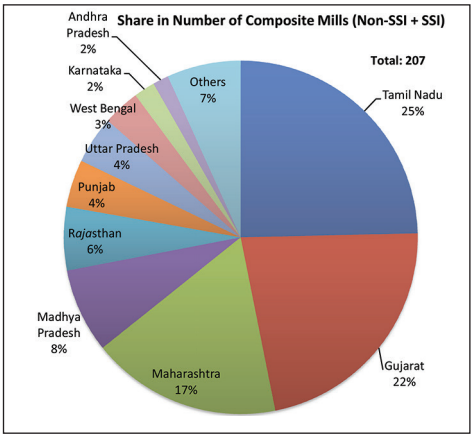
The large raw material base in Andhra Pradesh supports the development of textile industry in the State. However, there remains substantial scope for further value addition in the textile value chain as the natural advantage which the State possesses, in terms of raw material availability, does not translate into commensurate availability of processing facility, measured in terms of number of textile mills. As on march-end 2016, the State had only 5 percent of the spinning mills, 2 percent of composite mills, and 1 percent of the weaving (composite and exclusive weaving) mills in India (Exhibit 9).

An analysis of a sample of companies in the textile sector having their manufacturing units in Andhra Pradesh has been undertaken to understand the performance of companies in the State over the past few years. The cumulative sales of these companies have declined intermittently during the five-year period 2010-11 to 2014-15. The aggregate net profit during this period turned negative only during 2011-12. In 2014-15, while the aggregate sales and net profit dipped, the aggregate profit after tax remained positive for the industry.

Exports as percentage of sales has increased for the sample set of companies, from 17.2 percent in 2010-11 to 18.5 percent in 2014-15. The share of imports in total raw material purchases has more than doubled during the same period from 2.7 percent to 5.6 percent (Table 15). The low share of raw material imports is indicative of the substantial backward linkages of the industry and greater integration of the entire value chain within the State's economy.

Exhibit 9: State-wise Share in Number of Textile Mills (as on 31st March 2016)





Source: Office of the Textile Commissioner

Table 15: Key Aggregate Industry Financials for Select Textile Companies in Andhra Pradesh (Value in Rs. Million)

Parameters	2010-11	2011-12	2012-13	2013-14	2014-15
Total Sales	32169.1	32081.4	39242.0	47293.8	44965.5
Total PAT	348.5	-1808.5	158.6	1228.7	88.1
Export / Sales (Avg; %)	17.2	15.6	15.7	17.1	18.5
Raw Material Imports / Raw Material Purchases (Avg; %)	2.7	3.9	3.3	2.8	5.6
Total Forex Earnings	11332.6	10250.5	13555.2	18245.9	18090.5
Total Forex Spending	1788.3	2810.0	2785.6	3014.0	2765.3

Sample Size- 10 Companies
Source: CMIE Prowess; Exim Bank Research

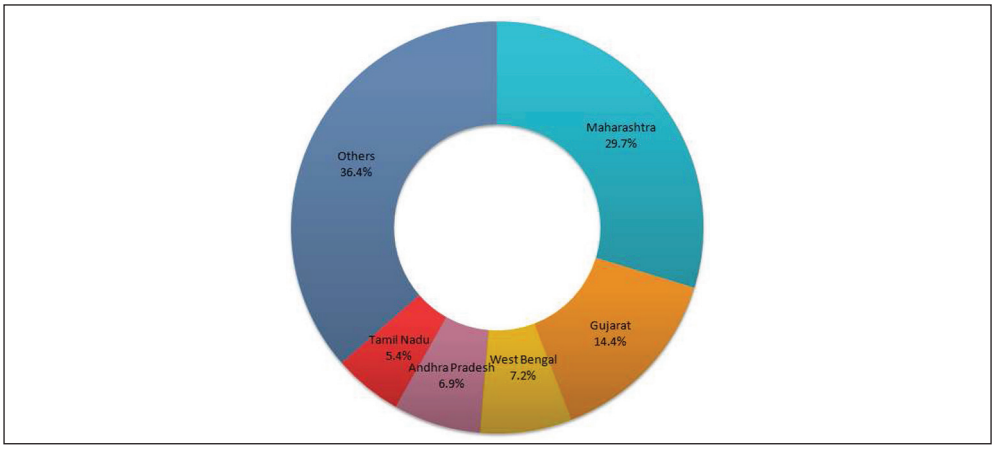
Pharmaceutical

Andhra Pradesh is home to several global and national pharmaceutical companies. Parawada, Nakkapalli, Pydibhimavaram and Ranasthalam are the key pharmaceutical manufacturing centres in the State. Prior to its division, the State had nearly 6.9 percent of the total pharmaceutical units in India (Exhibit 10).

After the division, the Northern region of Andhra Pradesh is being considered a potential pharma hub, on account of its location and a slew of incentives from the government. The region already has several pharmaceutical companies like Hetero SEZ, Reddy Labs, Aurobindo Pharma, Hospira and Eisai.

An analysis of a sample of listed pharmaceutical companies based in Andhra Pradesh indicates that the cumulative sales of the companies have grown at a robust CAGR of 18.8

Exhibit 10: State-wise Share in Pharmaceutical Units



Source: Lok Sabha Unstarred Question No. 1773 Answered on: 22.07.2014

Table 16: Key Aggregate Industry Financials for Select Pharmaceutical Companies in Andhra Pradesh (Value in Rs. Million)

Parameters	2010-11	2011-12	2012-13	2013-14	2014-15
Total Sales	134966	157173.9	196788.4	247170.4	269233.9
Total PAT	20978.9	15635.9	25620.8	40300.9	45889.5
Export / Sales (Avg; %)	50	56	59	56	58
Raw Material Imports / Raw Material Purchases (Avg; %)	34	37	38	42	37
Total Forex Earnings	83536.1	105982.3	142645.5	181673.6	196556.4
Total Forex Spending	38404.3	44159.1	54891	67833.1	77737.9

Sample Size- 7 Companies
Source: CMIE Prowess; Exim Bank Research

percent during the five-year period FY11-FY15. Concomitantly, the profit after tax registered a CAGR of 21.6 percent. The export orientation of these firms has also increased. While in FY11 exports accounted for 50 percent of the sales of these companies, its share was 58 percent in FY15. The intensity of imported raw material purchases has also risen from 34 percent in FY11 to 37 percent in FY15 (Table 16).

Mineral based Industries

There are several mineral based industries in the State, principal among which are cement, steel, sponge iron, ferroalloys, glass, ceramics, refractories, chemicals, granite, marble and limestone cutting and polishing units, slate cutting units, gem cutting and faceting units, granite monuments manufacturing units, pulverizing units, stone crushers, mosaic and ceramic tile units, lime kilns, and manufactured rocksand units. Bauxite, heavy minerals, beach sand, limestone, gold, diamond, dolomite, oil and natural gas, uranium, garnet, granite, titanium, etc. have been identified as the focus minerals in the state, while cement, gas based thermal plants, oil refinery, cutting and faceting, mining and refinery, steel and sponge, alumina smelter and aluminium refinery etc. are the focus mineral-based industries in the State[7].

As on 01.04.2014, the total installed capacity of crude/liquid steel in Andhra Pradesh was 3000 tonnes per year. Other than this, the State also has substantial installed capacity of sinter, pellets, pig iron, saleable steel, sponge iron and ferro alloys (Table 17). The State also possesses

Table 17: Principal Mineral-based Industries in Andhra Pradesh

Industry	Capacity ('000 Tonnes Per Year)
Abrasives	5
Aluminium Foil	3
Asbestos Products	760.5
Bleaching Clay	35
Cement	59277
Chemical • Calcium Carbide • Caustic Soda • Sulfuric acid • Bleaching Powder • Hydrochloric Acid • Chlorine • Oleum	 23 201.5 144 9 24.7 49.8 15
Ceramic	96.6 (Exclusive of 1.4 million sq mt by Restile Ceramics Ltd)

[7]Socio Economic Survey 2015-16, Planning Department, Government of Andhra Pradesh
[8]Indian Petroleum and Natural Gas Statistics 2014-15

Fertilizers • Single Super Phosphate • Nitrogen • Phosphorus Pentoxide • Sulfuric Acid	 191 1254.2 927.8 78.5
Pesticides	2.4
Glass	10 (Exclusive of 10 million sq m by Triveni Glass Ltd)
Iron and Steel • Sinter • Saleable Steel • Crude/Liquid Steel	 8856 2656 3000
Pig Iron	3835
Pellets	8000
Sponge Iron	616.5
Ferro Alloys	364.5
Refractory	122.1
Zinc	56
Petroleum Refinery	8366

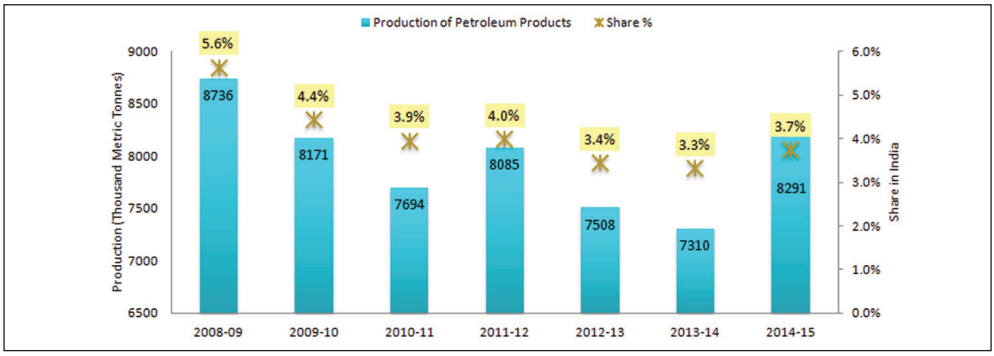
Note: Includes data for Telangana
Source: Indian Minerals Yearbook 2014, March 2016; Exim Bank Research

substantial installed capacity in the chemical and fertilizers sector.

Andhra Pradesh also accounted for 1.4 percent of the onshore crude oil production and 7.6 percent of the onshore production of natural gas[8]. As on 1.4.2014, the State (including Telangana) had 3 percent of the total onshore crude oil reserves and 13.2 percent of the total natural gas reserves in India.

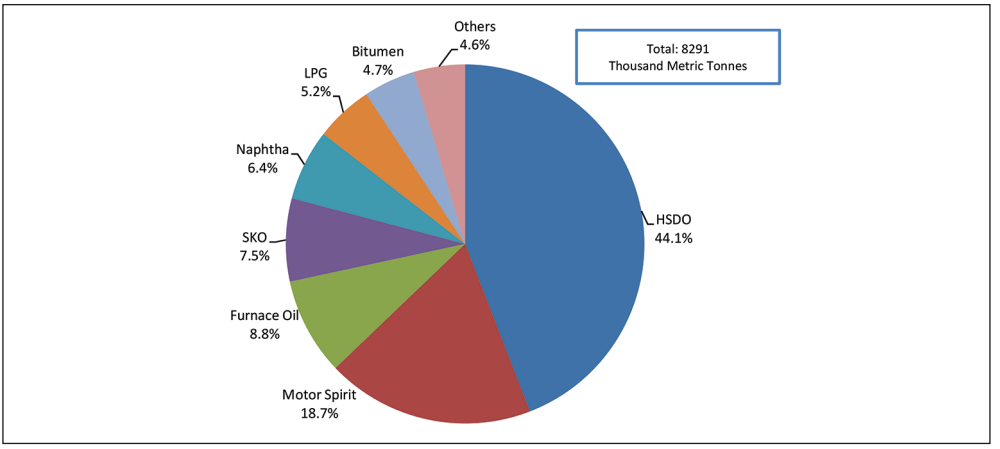
Andhra Pradesh has two petroleum refineries namely, ONGC, Tatipaka and HPCL, Vishakhapatnam. Production of petroleum products in Andhra Pradesh registered a y-o-y

Exhibit 11: Production of Petroleum Products in Andhra Pradesh



Source: Indian Petroleum and Natural Gas Statistics 2014-15

Exhibit 12: Type of Petroleum Products Produced in Andhra Pradesh, 2014-15



HSDO- High Speed Diesel Oil; LPG- Liquefied Petroleum Gas; SKO- Superior Kerosene Oil
Source: Indian Petroleum and Natural Gas Statistics 2014-15

increase of 13.4 percent during 2014-15, after witnessing two preceding years of decline (Exhibit 11). With a production of 8291 thousand metric tonnes, Andhra Pradesh had a share of 3.7 percent in India. High speed diesel oil was the most important petroleum product, accounting for 44.1 percent of the production in Andhra Pradesh in 2014-15. Motor spirit (18.7 percent), furnace oil (8.8 percent) and Superior Kerosene Oil (7.5 percent) were the other major petroleum products produced in the State during the year (Exhibit 12).

Engineering

Engineering is among the largest industrial sectors of India. It is diverse with a number of segments and can be broadly categorized into heavy engineering and light engineering. The heavy engineering segment includes machinery used in power, oil refining, mining, metallurgy, oil and gas extraction, cement production, textile production. The light engineering segment constitutes machines related to roller bearing, instruments for the medical and surgical sector, process control instruments, castings, steel forgings, and pipes, among others.

An analysis of a sample of listed engineering goods companies based in Andhra Pradesh indicates that the cumulative sales of these companies have grown consistently over the years, recording a CAGR of 10.1 percent during 2010-11 to 2014-15. Exports as percentage of sales also increased from 6.1 percent in 2010-11 to 11.7 percent in 2014-15. However, total forex spending in the sector is

Table 18: Key Aggregate Industry Financials for Select Engineering Goods Companies in Andhra Pradesh (Value in Rs. Million)

Parameters	2010-11	2011-12	2012-13	2013-14	2014-15
Total Sales	91538.2	101402.4	112715.9	120477.7	134619.6
Total PAT	10482.2	10721.7	12062.4	13563.2	16109.7
Export / Sales (Avg; %)	6.1	7.2	11.3	11.4	11.7
Raw Material Imports / Raw Material Purchases (Avg; %)	28.2	32.4	32.4	32.6	31.6
Total Forex Earnings	4493.8	5370.8	5620.4	6914	8057.8
Total Forex Spending	27565.5	32681.2	37065.9	31370.9	32465.8

Sample Size- 7 Companies
Source: CMIE Prowess; Exim Bank Research

far larger than the forex earnings. On the positive side, forex earnings have grown at a much faster pace than forex spending. During FY11 to FY15, while the forex earnings registered a CAGR of 15.7 percent, forex spending witnessed a CAGR of 4.2 percent (Table 18).

Leather

As highlighted in Chapter 1, Andhra Pradesh has substantial livestock and livestock rearing activities. On account of the large raw material base, the State is a natural choice of location for leather industry. According to some estimates, the State provides 10 percent of the raw material for India's leather industry. However, only 5 percent of the raw material produced in the State is used for the local leather industry while the balance 95 percent is transported to other States for value addition. This is largely attributed to the lack of tanning facilities in the State[9]. As on July 2014, the State had only 7 of the 1632 tanneries in India. On the other hand, the neighbouring State of Tamil Nadu had nearly 48 percent of all the tanneries in the country[10].

Gems and Jewellery

The two major segments of the gems and jewellery business in India are gold and diamond jewellery. A predominant portion of gold jewellery manufactured in India is for domestic consumption. The total resources of gold in the country as on April 2010 were estimated at 493.69 million tonnes. By States, the largest resources in terms of gold ore (primary) are located in Bihar (45 percent) followed by Rajasthan (23 percent) and Karnataka (22 percent), West Bengal (3 percent), and Andhra Pradesh and Madhya Pradesh (2 percent each).

[9]White Paper on Industry, Infrastructure and Employment, Industries and Commerce Department, Government of Andhra Pradesh, July 2014.
[10]Lok Sabha Unstarred Question No. 2480 to be Answered on 25th July, 2014

Total diamond resources in India are 31.9 million carats, with Madhya Pradesh, Andhra Pradesh and Chhattisgarh being the major states where these are located. Anantapur and Cudapah are important diamond mining centres in Andhra Pradesh. The city of Nellore is a key centre for handmade jewellery.

SERVICES SECTOR

Services sector has been a major growth driver for the State of Andhra Pradesh. The sector has made considerable contributions to the State's income, trade, investments and employment. The sector's share in the State's GSDP has been growing and stood at 46 percent in 2015-16. The sector not only contributes directly to the exports from the State, but also propels growth in exports from the manufacturing sector as low cost and high quality services in areas such as telecommunications, financial services, transport, logistics and distribution are crucial for enhancing the competitiveness of merchandise exports as well.

IT and ITeS, tourism, healthcare, engineering, procurement are some of the key services segments in Andhra Pradesh. A robust infrastructure base, strong policy support and vast human capital has positioned the State as one of the leading services exporter from the country.

IT and ITeS

Undivided Andhra Pradesh had a substantial share in the IT revenues of the country. However, Hyderabad accounted for more than 95 percent of the revenues. Andhra Pradesh now has a nascent IT sector, largely confined to Visakhapatnam, Kakinada, Vijayawada and Tirupathi. The State already has an elaborate policy framework and incentive mechanism for promoting the growth of these centres. The Government has put in place three policies - IT Policy, Electronics Policy, and Innovation and Startup Policy. This needs to be complemented through setting up of adequate physical and social infrastructure.

Tourism

Andhra Pradesh is home to more than 300 tourist locations on account of its diverse cultural and natural heritage. Tourism is a significant contributor to the State's GSDP. Development of the tourism sector also has a bearing on the employment scenario. According to Government of India estimates, every one crore that is invested in tourism sector creates 475 jobs as compared to 126 jobs created by investment of similar magnitude in the manufacturing sector.

The Government of Andhra Pradesh is investing significantly in the social infrastructure of the State in order to further bolster the tourism segment. The State aims towards building several signature infrastructure projects which includes setting up of world class healthcare centre for promotion of medical tourism, establishment of educational institutions, large sports stadium, convention centres, among others.

Table 19: Share of Top 10 States/UTs of India in Number of Domestic Tourist Visits – 2015, in Millions

Rank	State	Domestic Tourist Visits in 2015	Share %
1	Tamil Nadu	333	23.3
2	Uttar Pradesh	205	14.3
3	Andhra Pradesh	122	8.5
4	Karnataka	120	8.4
5	Maharashtra	103	7.2
6	Telengana	95	6.6
7	Madhya Pradesh	78	5.4
8	West Bengal	70	4.9
9	Gujarat	36	2.5
10	Rajasthan	35	2.5
Total of top 10 States		1197	83.6

Source: India Tourism Statistics at a Glance 2015

Andhra Pradesh accounted for nearly 8.5 percent of the domestic tourist visits in 2015, and was ranked third among all states on this parameter (Table 19).

Healthcare

Healthcare comprises a vast ambit of services encompassing hospitals, nursing homes, diagnostic centres, medical devices and equipment, clinical trials, outsourcing, telemedicine, medical tourism and health insurance. The robust healthcare infrastructure network in Andhra Pradesh is supplemented by the presence of 46 medical colleges, and 70799 doctors registered with the State medical councils / medical council of India[11].

Engineering, Procurement and Construction (EPC)

Construction activities are an important development indicator and has multiplier effect on investment in other sectors of the economy. The EPC sector in Andhra Pradesh not only caters to the domestic demand arising from the large unmet infrastructure demand, but also has significant foreign exchange earnings. According to data from CMIE Prowess, for a sample of 653 companies having their registered office in Andhra Pradesh, the exports from EPC companies accounted for more than one-fifth of the cumulative exports. Even upon inclusion of MSME exports, the share of EPC exports from the State is estimated to remain sizeable.

[11]National Health Profile 2015

3. EXPORT POTENTIAL

EXPORT SCENARIO

The diverse resource endowments, coupled with robust production and value addition networks, position the State at the fulcrum of the exports sector in India. During 2015-16, Andhra Pradesh ranked sixth among all States by value of exports. Merchandise exports from the State amounted to Rs. 794.9 billion during the year, accounting for 4.6 percent of the country's total exports (Table 20).

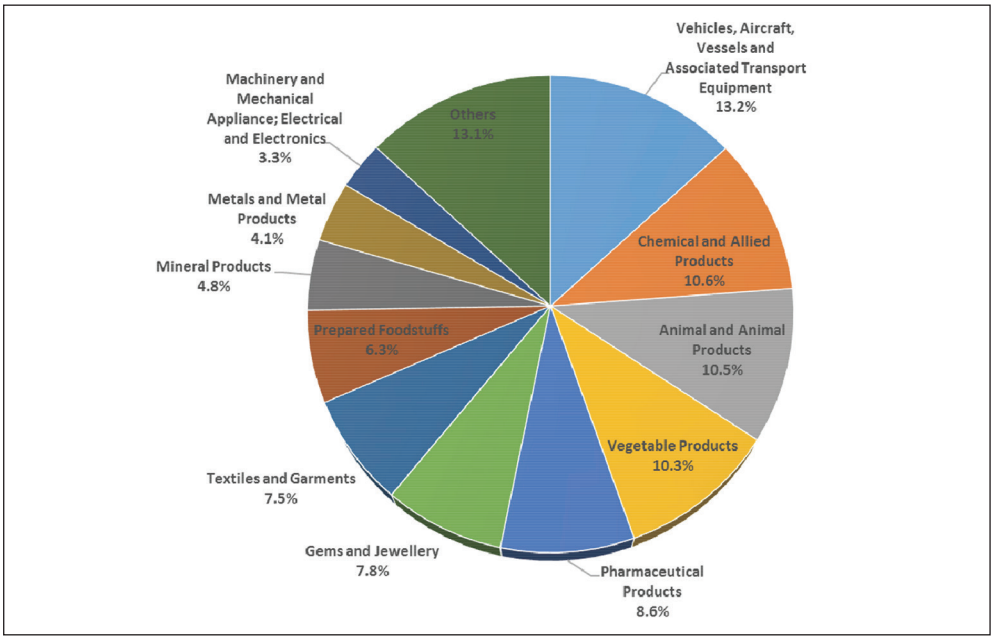
Vehicles, aircraft, vessels and associated transport equipment is the largest sector of exports from Andhra Pradesh, followed by chemical and allied products, animal and animal products, vegetable products, pharmaceutical, gems and jewellery and textiles and garments (Exhibit 13). The USA (share of 18 percent), Singapore (10 percent), China (8 percent), Hong Kong (7 percent) and Malaysia (6 percent) are the top destinations for exports from the State (Exhibit 14).

Table 20: Top Indian States by Value of Exports (2015-16)

State	Value (Rs. Billion)	Share %
Maharashtra	4355.9	25.4%
Gujarat	3261.3	19.0%
Tamil Nadu	1673.0	9.7%
Karnataka	1258.6	7.3%
Uttar Pradesh	812.2	4.7%
Andhra Pradesh	**794.9**	**4.6%**
Haryana	676.8	3.9%
Delhi	608.4	3.5%
West Bengal	488.3	2.8%
Punjab	366.8	2.1%

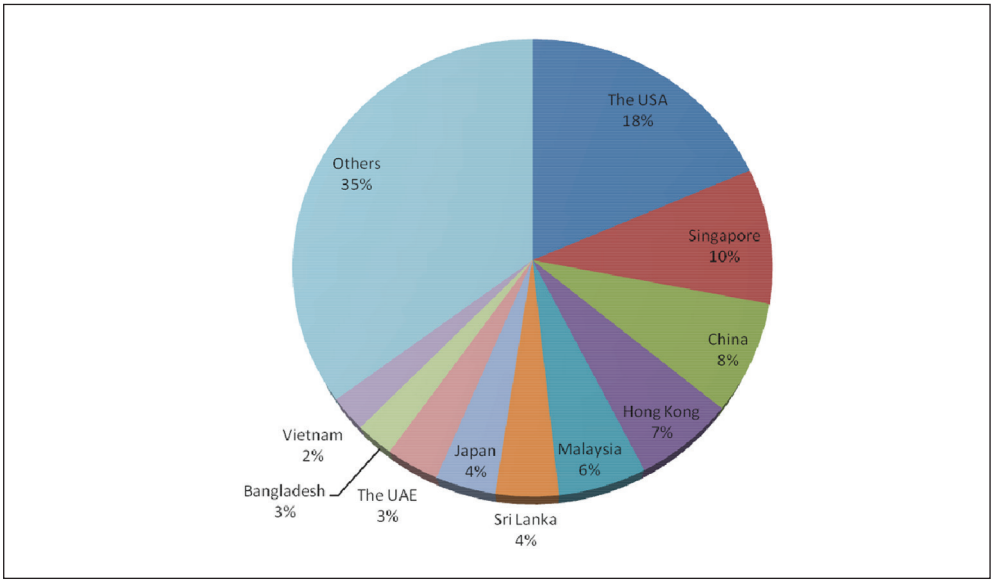
Source: Lok Sabha Unstarred Question no. 909 answered on 21st November 2016, Exim Bank Research

Exhibit 13: Sector-wise Share in Andhra Pradesh's Exports (2015-16)



Source: DGCIS, Exim Bank Research

Exhibit 14: Key Destinations for Andhra Pradesh's Exports (2015-16)



Source: DGCIS, Exim Bank Research

EXPORT INFRASTRUCTURE, POLICIES AND INCENTIVES

Special Economic Zones

To enhance foreign investment and promote exports from the country, and to create a level playing field for domestic enterprises and manufacturers to be competitive globally, Special Economic Zones (SEZ) have been promoted by the Government. The robust infrastructure facilities and attractive fiscal benefits on offer in SEZ are aimed at fuelling economic growth and exports.

In Andhra Pradesh, the Andhra Pradesh Industrial Infrastructure Corporation (APIIC) is the agency responsible for supervision and execution of SEZs. Currently, there are 19 operational SEZs in the State, of which four each are dedicated to IT/ITeS, pharmaceutical and multi-products. As on September 2015, close to Rs. 14,339 Crore of investments were made in these SEZs (not including FDI), and a total of 62,895 jobs were created. Exports from these SEZs during the first half of 2015-16 amounted to Rs. 3354.94 Cr (Table 21).

Petroleum, Chemicals and Petrochemicals Investment Region

Government of India formulated the Petroleum, Chemical and Petrochemical Investment Regions (PCPIRs) policy in 2007 for promoting the petroleum, chemical and petrochemical sectors in an integrated and environmental friendly manner on a large scale. Andhra Pradesh is among the four coastal States where the policy has been implemented.

The Andhra Pradesh PCPIR is an investment area of 603 square kilometres involved in domestic and export-led production of petroleum, petrochemicals and chemicals. With a total committed investment of nearly US$ 28.97 billion, the region is set to boost exports of chemical and petrochemicals from the State, as also exports from other ancillary industries.

Table 21: Status of Operational SEZs as on September 2015

Description	Number of SEZs	Investment Made in Rs. Cr (without FDIs)	Employment Generated	Physical Exports during First Half of FY16 (Rs. Cr)
APIIC	6	2564.92	13825	796.94
APIIC JVs	3	2693.14	4977	221.78
APIIC Assisted	5	5983.66	31429	793.91
Private Developers	5	3157.75	12664	1542.31
Total	**19**	**14399.47**	**62895**	**3354.94**

Source: Andhra Pradesh Socio Economic Survey 2015-16

Industrial Corridors

Visakhapatnam - Chennai Industrial Corridor (VCIC), Chennai-Bengaluru Industrial Corridor (CBIC), and Bengaluru-Kurnool Industrial Corridor are the three major industrial corridors which are expected to positively influence manufacturing output and exports from the State.

Spread over an area of more than 800 kilometres, VCIC is a part of the East Economic Corridor and is the country's first coastal industrial corridor. It is projected to attract investments to the tune of US$ 15 billion, thereby enhancing manufacturing output in the region by Rs. 3,000 billion by 2025, and generating employment for 50,000 people. The industries along the VCIC will be geographically concentrated in four industrial nodes of Visakhapatnam, Kakinada, Gangavaram-Kankipadu, and Yerpedu-Srikalahasti. These have been identified based on factors such as industrial demand, the Government's vision and state development plans. These nodes will require necessary infrastructure support, logistic facilities, and skilled human resources and research and development facilities in order to realize the potential, and spur industrial progress and economic growth in the region.

CBIC is also proposed to be developed over an area of nearly 80,359 sq. km with assistance from Central Government and Japan International Cooperation Agency (JICA). Under this corridor, three potential industrial nodes have been identified in the State of Andhra Pradesh —Krishnapatnam in Nellore, Yerpedu in Chittoor, and Hindupur in Anantapur. In the first phase of the project, Krishnapatnam node is proposed to be developed, which is expected to promote growth of automobile, machinery, electronics and medical equipment industries in the State.

Ports

With a coastline of over 974 km stretching from Srikakulam to Nellore, Andhra Pradesh has a robust port infrastructure. The State has one major port in Visakhapatnam and 14 other notified non-major ports, providing access to global markets, especially those in the Asian and South East Asian region. Andhra Pradesh also has the advantage of having three deep draft ports at Visakhapatnam, Gangavaram and Krishnapatnam which are critical for movement of bulk cargo from East and South East Asian economies.

The Sagarmala Project of the Government of India can propel the port-led development of the State. With the objectives of port modernization, new port development, port led industrialization, enhancement of port connectivity to hinterland, and coastal community development, the project is expected to result in establishment

of a modern and efficient port infrastructure. Cost-efficient and timely logistics shall make exports competitive. The first phase of the project includes development of stretch comprising Visakhapatnam - Kakinada – Gangavaram – Krishnapatnam.

The commitment of the State Government towards establishment of port infrastructure is evident from the announcement of plans to establish ten new ports in the State – Bhavanapadu, Narsapur, Ramayapatnam, Machilipatnam, Kakinada SEZ (captive), Meghavaram (captive), Nakkapalli (captive), Nizampatnam, Vodarevu and Dugarajapatnam. The Government is also encouraging private participation for port development. The State Government is planning to construct the new ports of Bhavanapadu and Machilipatnam under the public-private participation (PPP) model.

Inland Waterways

The State Government is also focusing on development of inland waterways. Under the National Waterways Act, 2016, 111 inland waterways have been declared as National Waterways (NWs) in addition to the five existing NWs, across 24 States for utilizing them as an environment friendly and sustainable mode of transport.

As per the Union Budget 2015-16, the State Government of Andhra Pradesh had proposed taking up the work related to NW. The development of NW 4 has already been initiated by the State Government. A Memorandum of Understanding has been entered into between Inland Waterways Authority of India (IWAI) and the Government of Andhra Pradesh to develop the Kakinada-Puducherry canal system along with Krishna and Godavari rivers in Andhra Pradesh through Special Purpose Vehicle to be formed by the Government of Andhra Pradesh and IWAI. Feasibility studies, including delineation of land, have already been undertaken.

Inland Container Depots / Container Freight Stations

Inland Container Depots (ICDs)/ Container Freight Stations (CFSs) are important hubs in the logistics chain. The Government of India has set up ICDs at inland points away from sea ports in order to enable exporters and importers to handle their shipments near their place of location. CFSs have been established to speed up trade and help small exporters, whose consignments are less than container loads. These help decongest ports. As on November 2016, there were two functioning ICDs and five functioning CFSs in the state, while another eight CFSs were under implementation.

According to the Food Processing Policy of the Government of Andhra Pradesh, the State intends to set up ICDs at Chittoor and Kakinada port for handling and temporary storage of import/export loaded containers for

food products. The ICDs would also have facilities for custom clearance, and railway tracks linking them with the closest railway network for transportation. Plug facility for cold storage containers would also be provided at ICD.

KEY SECTORS

The districts of Andhra Pradesh have diverse resource endowment, facilitating growth of different manufacturing activities. Department of Industries, Government of Andhra Pradesh has identified key sectors in each of the districts (Exhibit 15). Based on a detailed resource profiling, and taking into consideration the focus sectors for the State Government, an analysis of items for potential exports and key markets has been undertaken in the following section.

Srikakulam District

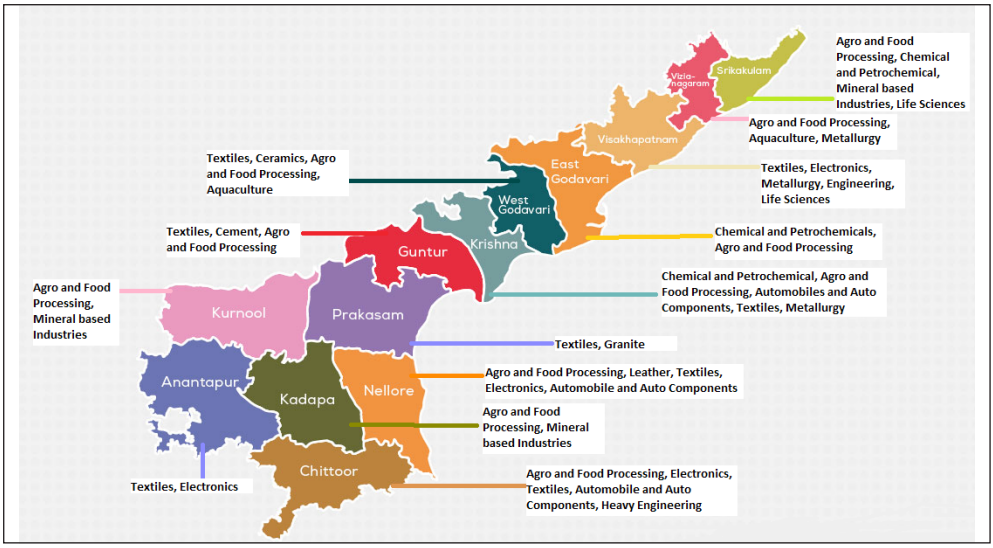
Resource Base

Srikakulam district has vast reserves of garnet, graphite, Ilmenite, limeshell, limekankar, manganese, quartzite and granite. As far as the agricultural base is concerned, paddy and pulses are the important food crops, while groundnut and coconut are the major non-food crops for the district, in terms of percentage share in total area sown. Important agricultural products from the district, as identified by the Government, are Cashew, Coconut, Tamarind, Timber, Turmeric, Pineapple, Custard-apple and Adda leaves.

Industrial Activities

In India, the promoters willing to set up a large scale industry have

Exhibit 15: District-wise Focus Sectors



Source: Department of Industries, Government of Andhra Pradesh; Exim Bank Research

to file an application for Industrial Entrepreneur's Memorandum (IEM), unless the items are under the purview of licensing provisions or are exclusively reserved for manufacture by small scale industries sector. Data for IEMs filed from 2012-13 to 2015-16 indicates that maximum number of investments in Srikakulam have been in the sector of granite blocks (7) and pharmaceutical and API (5) (Table 22).

As on November 2014, there were 98 large and mega industrial projects in the district, involving an investment of Rs. 1,271 Crore and creating 14,408 jobs. Apart from the large scale industries, Srikakulam district also has a significant base of micro, small and medium enterprises (MSME), with Rs. 464.46 Crore of investment undertaken by MSME units in the district as on November 2014.

Table 22: Number of IEMs Filed in Srikakulam District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Granite Blocks	7
Pharmaceutical and API	5
Cotton Yarn	1
Power Generation	1
Ilemnite	1
Jute Goods	1
Coconut Processing	1
Total	**17**

Source: DIPP, Exim Bank Research

The district is home to several paddy based and coir based industries. There are also several MSME clusters in the district. The cluster development programme under the Ministry of Micro, Small and Medium Enterprises, Government of India, has been instrumental in improving the productivity and competitiveness of MSMEs in India, as well as in building capacity of such enterprises. Currently, the district has clusters dedicated to coir, rice mills, cashew, jute articles, brass and bell metal, zari embroidery, carved wood furniture, khadi, etc.

There is potential for development of several industries in the district[12].

- The rice milling activity in the district can be substantially scaled up to match the produce. The by-products from rice milling can also be put to alternative uses such as extraction of rice bran oil, cattle feed, etc.
- The substantial groundnut production in the district also presents a case for greater establishment of oil mills and production of greater value added products.
- Cashew processing can also be encouraged in the district. While there exists production units for this activity in the State, a significant

[12]Development Commissioner, Ministry of MSME

portion of cashew production is sent to other States for processing.

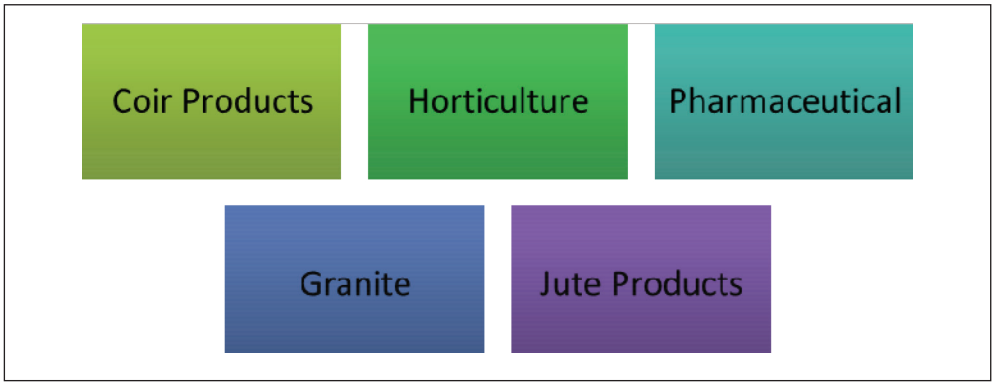
- Rich concentration of salt fields in the district can be used for setting up manufacturing units for iodized salt.
- Given the substantial coconut production in the district, coir based industries can be promoted.
- Horticulture based industries can also be encouraged as there is substantial horticulture production in the district.
- Srikakulam is a leading producer of Mesta in the state, and there exists scope for development of jute industry in the district.
- There is also scope for establishment of more number of units for cutting and polishing, quartz grinding, glass and ceramic, fly ash bricks, etc.

According to fDi Intelligence from the Financial Times[13], during the period January 2003 to November 2016, the district received two greenfield Foreign Direct Investment (FDI) projects— both in mineral products. A titanium pigment plant was set by Trimex Sands, a subsidiary of Trimex Group (Dubai, UAE), and a heavy mineral processing plant by WGI Heavy Minerals (Coeur d'Alene (ID), United States).

Export Potential

An analysis of the resource profile of the district, as also the past investment trends indicates the potential for exports of coir products, horticulture products, pharmaceutical, granite and jute products from the district. There exist substantial opportunities for MSMEs to tap this potential.

Exhibit 16: Potential Export Sectors for Srikakulam



[13]fDi Intelligence from the Financial Times tracks cross border investment in a new physical project or expansion of an existing investment which creates new jobs and capital investment. This data differs from official data on FDI flows as company can raise capital locally, phase their investment over a period of time, and can channel their investment through different countries for tax efficiency.

Vizianagaram District

Resource Base

The northern coastal district of Vizianagaram has deposits of Garnet, Graphite, Ilemnite, Limekankar, Manganese, and Quartzite. Nearly one-fifth of the total sown area in the district is under non-food crops, with groundnut and sesamum being the major ones. Paddy and pulses are the major food crops grown in the district.

Table 23: Number of IEMs Filed in Vizianagaram District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Power (Conventional and Non-Conventional)	7
Ferro Alloys	2
Cashew and Cashew Processing	2
Iron Ore Beneficiation Plant	1
Pellets	1
Fabricated Structural Steel	1
Coke Oven Products	1
Granite Blocks	1
Calcined Petroleum Coke	1
Carbon Paste	1
Hydro Carbon Silico Manganese	1
Silico Manganese	1
Pet Feeds	1
Corn Oil	1
Maize Starch	1
Spun Concrete Products	1
Total	**24**

Source: DIPP, Exim Bank Research

Bajra, Sugarcane, Mesta, Ragi and Cotton are other major crops grown in the district.

Industrial Activities

Data for IEMs filed during 2012-13 to 2015-16 indicate the significant presence of iron-alloy based industries in the district (Table 23). Apart from metallurgical industries, significant number of IEMs were also filed in the food processing segment. As on November 2014, investments of nearly Rs. 2,807 Crore have gone into establishment of large and mega industrial projects in the district, generating employment for nearly 32,898 people.

The district had relatively lower investment of Rs. 508.16 Crore in MSMEs as on November 2014, leading to employment for close to 41,757 people. There are few clusters in the district in the segments of food processing, jute articles, musical instruments, mango jelly bars, etc. There exists potential for establishment of new MSMEs in the sectors of steel fabrication, wire drawing, cashew nut processing, food processing, cold storage, dairy, etc.

Export Potential

With several iron and steel industries in the district, there is potential for iron and steel exports. High carbon ferro chrome are currently exported from the district to countries such as South Korea. Processed food is also an emerging area of exports from the district given the vast availability of agriculture and horticulture produce in the area.

Exhibit 17: Potential Export Sectors for Vizianagaram

Visakhapatnam District

Resource Base

Visakhapatnam has reserves of bauxite, garnet, graphite, ilmenite, limeshell, mica, quartz, semi-precious stones, and vermiculite. In terms of agricultural produce, the district ranks the highest among all the districts of the State for acreage and production of sugarcane. Paddy and millets are the important food crops, while coconut is an important non-food crop grown for the district. The district also has substantial marine resources.

Industrial Activities

The industrial sector contributes to close to 30 percent of the district GDP. The district has a robust industrial base comprising oil refinery, zinc, fertilizers, steel, dredging, heavy engineering, ship building, and power generation. There are seven public sector units in the district—Hindustan Shipyard Ltd, Hindustan Petroleum Corporation Ltd, Rashtriya Ispat Nigam Ltd, NTPC Simhadri Thermal Power Project, Bharat Heavy Plate and Vessels Ltd, National Mineral Development Corporation Ltd. and Ferro Scrap Nigam Ltd.

During the period 2012-13 to 2015-16, maximum number of IEMs in the district were filed in the drugs and pharmaceutical, and chemical sectors. The district is fast emerging as a pharmaceutical manufacturing hub, and nearly half of the State's pharma companies are located here. The Jawaharlal Nehru Pharma City located in Visakhapatnam is a unique PPP project and provides a diverse range of facilities to pharmaceutical companies such as common effluent treatment plant, marine outfall, hazardous waste management, etc. Currently, nearly 63 companies are operating here.

Another novel initiative is the Brandix India Apparel City (BIAC) which is set to provide a boost to the textile and garments sector in the district. BIAC is a unique, integrated apparel supply chain city spread over an area of 1000 acres. It is expected to provide end-to-end apparel solutions and put into place breakthrough concept of seamless 'Fibre-to-Store' integration, thereby offering unmatched advantages to global apparel chain partners.

Another important industrial sector for the district is aerospace and defence. While Hindustan Shipyard Limited is an important manufacturer, several others have come up over the years. For example, Essen Electronic Systems Pvt Ltd. was provided license in 2013 for production of navigation and guidance systems, stimulators/ test panels, radar subsystems, etc. In 2015, another license was provided to Avantel Limited for design, development and manufacture of radio communication systems.

Table 24: Number of IEMs Filed in Visakhapatnam District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Drugs and Pharmaceutical	23
Chemicals	11
Power Generation (Conventional and Non-conventional)	4
Textiles and Garments	3
Iron and Steel	3
Cashew Kernel	3
Solar PV Cell	2
Granite Cutting and Polishing	1
Densified Biomass Fuel	1
Coal Gas	1
Buffalo Meat, Fresh And Frozen	1
Diabetic Testing Equipment	1
Earth Moving Machinery Parts, Attachments and Sub-Assemblies	1
Titania Slag	1
L Saw Pipes	1
Ossein Plant	1
Cutting Shaping and Finishing of Stone	1
Fish Feed	1
Soft Drinks	1
Total	**61**

Source: DIPP, Exim Bank Research

The State Government is also focusing on development of this district as an IT hub. The district has several prominent IT players such as Wipro, Tech Mahindra, HSBC, Concentrix, IBM and Cyient. The Government has set up an incubation centre known as the “Sunrise Startup Village” and has also proposed setting up of an Information Technology Investment Region in the district.

Data pertaining to IEMs filed also exhibit presence of food processing industries in the district. Three IEMs were filed in the district in the cashew sector (Table 24).

As on November 2014, the district had 194 mega and industrial projects with investments of Rs. 19,811 Crore and generating employment for 67,979 people. As compared to this, the MSME sector generated employment of 147,622 in the district, with investments of only Rs. 4,207.41 Crore.

The district has several MSMEs engaged in the sectors of electronics, chemical and chemical products, and agro based industries. There are also several clusters in the district

in sectors such as food processing, leather products, cane and bamboo, jewellery, zari embroidery, wooden toys, lacquerware, etc.

Between January 2003 and November 2016, a total of 52 greenfield FDI projects were also recorded[14] in the district. These projects represent a total capital investment of US$ 4,435.10 billion. Maximum number of projects were recorded in the Software and IT services sector, while maximum capital expenditure were recorded in the textiles sector (US$ 1,000 of capital investment in one project) (Table 25).

Table 25: Top Sectors receiving Greenfield FDI in Visakhapatnam District (January 2003- November 2016)

Industry Sector	Projects	Capex (US$ Mn)
Software and IT services	12	320.0
Business Services	6	20.6
Chemicals	5	213.9
Pharmaceuticals	5	174.4
Financial Services	4	162.2
Others	20	3,544

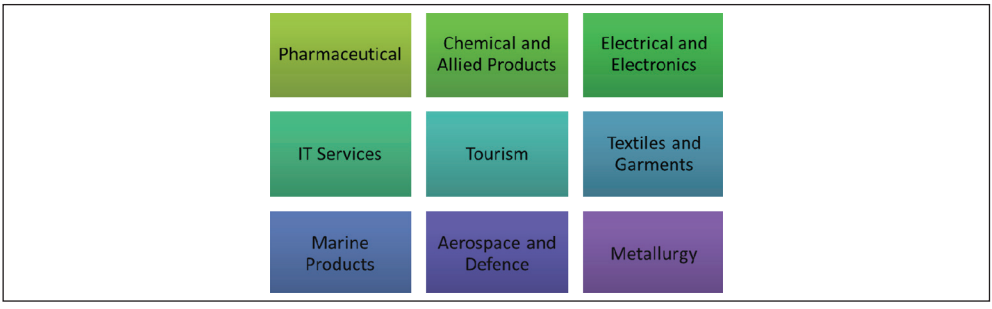
Source: fDi Markets, Financial Times

Visakhapatnam also has various tourist destinations on account of its rich natural and cultural heritage. The tourism potential of the district remains untapped, and requires development of a comprehensive tourism plan.

Export Potential

Marine products are an important export item for the district. Nearly US$ 1.12 billion of marine products were exported from the district in 2013-14, accounting for 22.5 percent of India's exports of these products. Visakhapatnam also has substantial export potential in pharmaceutical, chemical and allied products, electrical and electronics, IT services, tourism, textiles and garments, metallurgy and defence items. While the district already has substantial capacities in some of these sectors, others need to be promoted through an enabling policy mechanism.

Exhibit 18: Potential Export Sectors for Visakhapatnam



[14]Ibid.

East Godavari District

Resource Base

Bauxite, Fire Clay, Graphite, Ilemnite, Laterite, Semi-precious Stones, and Tungsten are the minerals available in the East Godavari district. Apart from these, the district also has crude oil and natural gas reserves. Availability of fertile delta lands also allows production of various agricultural and horticultural crops. The district also has abundant marine and fisheries resources.

Industrial Activities

India's largest offshore gas field is located in the Krishna-Godavari Basin. Discovery of natural gas has led to establishment of gas based power plants, fertilizers, petroleum, chemicals and petro chemical, and ceramic industries in the district. An electronics hardware park is also proposed to be set up at Kakinada, which is expected to give an impetus to electronics manufacturing and exports from the district.

The rich agriculture and horticulture resources in the district also facilitate development of processed food industry. The district also has a flourishing animal husbandry sector, and is one of the State's leading districts for dairy and poultry products. There is considerable production and exports of marine products as well. Fisheries is an important sector of the district's economy, and post-harvest fisheries activities such as processing, product development, transport and marketing also provide opportunities for investment and employment in the district.

Data for IEMs filed during the period 2012-13 to 2015-16 indicate that maximum number of IEMs were filed in the processed food sector, followed by marine products. A total of 48 IEMs were filed in the district during this period (Table 26).

Table 26: Number of IEMs Filed in East Godavari District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Processed Food	14
Marine Products	7
Power Generation (Conventional and Non-Conventional)	5
Rice Milling	3
Drugs and Pharmaceutical	3
Paper and Paper Products	3
Animal Feed	2
Cotton Yarn	2
Densified, Biomass Fuel	2
Rice	2
Fertilizer	1
Fruits and Vegetable	1
Ceramic	1
Tin containers	1
Plastics	1
Total	**48**

Source: DIPP, Exim Bank Research

As on November 2014, Rs. 13,836 Crore were invested in large and mega industrial projects established in the district, and Rs. 2,039.85 Crore were invested in MSMEs. Several MSMEs in the district are engaged in food processing, and paper and paper products industry. East Godavari has several clusters in the areas of engineering equipment, coir, food processing, utensils, granite processing, refractory, rice mills, puppets, hand embroidery, jewellery, fibre craft, kalamkari printing/painting, leather products, brass and bell metal, zari embroidery, Kuppadam sarees, etc.

Between January 2003 and November 2016, a total of 17 greenfield FDI projects were recorded in the district. These projects represented a total capital investment of US$ 1.74 bn. Maximum number of projects were recorded in the sector of coal, oil and natural gas, while the largest capital expenditure was in the non-automotive OEM sector (US$ 375 mn in one project) (Table 27).

Table 27: Top Sectors receiving Greenfield FDI in East Godavari District (January 2003- November 2016)

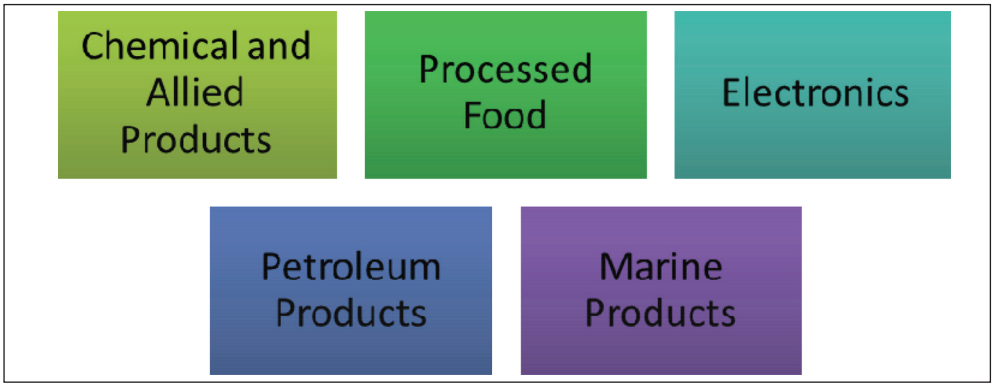
Industry Sector	Projects	Capex (US$ Mn)
Coal, Oil and Natural Gas	3	321.1
Financial Services	3	151.2
Alternative/ Renewable energy	2	250.6
Others	9	1,006

Source: fDi Markets

Export Potential

On account of the natural gas availability in the district, chemical and petrochemical, and petroleum products have emerged as major area for exports. Marine products and processed food are other key areas where the district already has significant capacities. The State Government also intends to develop the district into an electronics manufacturing and exports hub.

Exhibit 19: Potential Export Sectors for East Godavari



West Godavari District

Resource Base

West Godavari is primarily an agrarian district and contributes to nearly half of the State's rice production. Oil palm, sugarcane, corn, mango and banana are some other agricultural produce from the district. Ball clay, chromite, feldspar, graphite, tungsten, oil and natural gas are the key minerals resources in the district.

Industrial Activities

The district is a hub for agriculture-based industries. The district is also home to ceramic units, sugar and rice mills, oil refineries, carpet, and lace industries. The city of Naraspur is famous for lace products, and the crochet and embroidery cluster located here has nearly 50 exporters who export to major markets such as the USA, Europe and Japan. The other clusters in the district are in the areas of rice mills, handloom, carpets and durries, cane and bamboo, jewellery, puppets, textile hand painting, woodwork and lacquerware, among others. The district also has a few tourism attractions such as the Kolleru Lake and Dwaraka Tirumala.

Table 28: Number of IEMs Filed in West Godavari District (2012-13 to 2015-16)

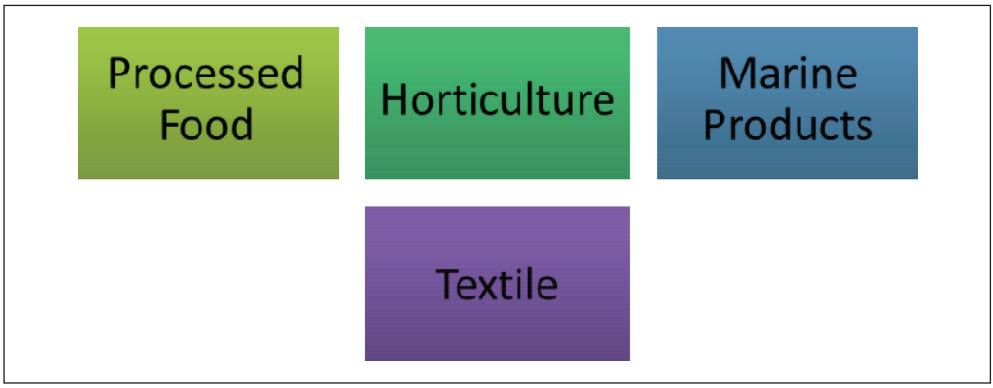
Sector	Number of IEMs Filed
Animal Feed	12
Yarn	9
Paper and Paper Products	4
Power Generation (Conventional and Non-Conventional)	4
Processed food	3
Marine Products	3
Alcohol	2
Sanitary Ware	2
Cold Storage	1
Ice Blocks	1
Hydrogen Peroxide	1
Vitrified Tiles	1
Rice Milling	1
Total	**44**

Source: DIPP, Exim Bank Research

As on November 2014, the district had 156 large and mega industrial projects involving investments of Rs. 1,794 Crore, while the MSME units had cumulative investment of Rs. 889.29 Crore. According to the data for IEMs filed in the district during 2012-13 to 2015-16, the highest number of IEMs were filed in the animal feed sector, followed by yarn, and paper and paper products. Several IEMs were also filed in the processed food and marine products sector (Table 28).

Between January 2003 and November 2016 two greenfield FDI projects were recorded in the district, one in building and construction materials, and the other in the financial services sector. These two projects represented a total capital investment of US$ 81.80 mn.

Exhibit 20: Potential Export Sectors for West Godavari



Export Potential

The district already has substantial exports from agro-based industries, as also of marine products. In fact, West Godavari district is a leader in prawn exports from the State. Apart from this, textile is also a major area of exports from the district.

Krishna District

Resource Base

Nearly 70 percent of the land area in the district is irrigated by Krishna River and its tributaries, thereby leading to abundant agro and marine resources. The district is also famous for its limestone deposits. Other major mineral resources in the district are chromite, diamonds, ilmenite, iron ore, mica, and oil and gas.

Industrial Activities

Emanating from its resource endowments, the district has a large number of food processing and cement industries. Auto components manufacturing units are also located in the district around the city of Vijayawada. The district also has considerable electronics production, with Bharat Electronics's Machilipatnam plant being one of the major industrial units. The Machilipatnam unit designs and manufactures strategic electronics. There is also a plan for establishment of new Opto-Electronics facility at Nimmaluru with investment of Rs. 200 Crore.

In the electronics sector, the Central Government's Electronic Manufacturing Cluster (EMC) Scheme supports creation of world-class infrastructure for attracting investments in the Electronics Systems Design and Manufacturing (ESDM) Sector. Krishna has been designated as a brownfield EMC and under the scheme, assistance up to 75 percent of project cost subject to a ceiling of Rs. 50 Crore is provided for Brownfield EMCs. An IT hub is

also proposed to be developed at Vijayawada.

Maximum number of IEMs during 2012-13 to 2015-16 were filed in the construction materials sector of Krishna District, followed by textile and animal feed (Table 29). As on November 2014, Rs. 5,175 Crore was invested in large and mega industrial projects in the district, generating employment for about 31,950 people. Alongside, Rs. 1,043.16 Crore was invested in the MSME sector. The district has clusters in the product categories of auto components, foundry, pharmaceuticals, furniture, jewellery, food processing, rice mills, toys and paintings, kalamkari printing/ painting, stone carving, block printing, zari embroidery, etc.

Table 29: Number of IEMs Filed in Krishna District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Construction Materials	7
Textile	5
Animal Feed	5
Alcohol	4
Marine products	4
Drugs and Pharmaceutical	3
Power Generation (Conventional and Non-Conventional)	2
Chemicals	2
Oil and Gas Exploration	1
Processed Food	1
Titanium dioxide slag	1
Total	**35**

Source: DIPP, Exim Bank Research

Between January 2003 and November 2016, a total of 18 greenfield FDI projects were recorded in the district, all in the city of Vijayawada. These projects represented a total capital investment of US$ 472.30 mn. Maximum number of projects and highest capital investment were recorded in the financial services sector (Table 30).

Table 30: Top Sectors receiving Greenfield FDI in Krishna District (January 2003- November 2016)

Industry Sector	Projects	Capex (US$ Mn)
Financial Services	3	142.8
Automotive Components	3	11.1
Automotive OEM	2	91.3
Business Services	8	7.2
Others	9	220

Source: fDi Markets

Export Potential

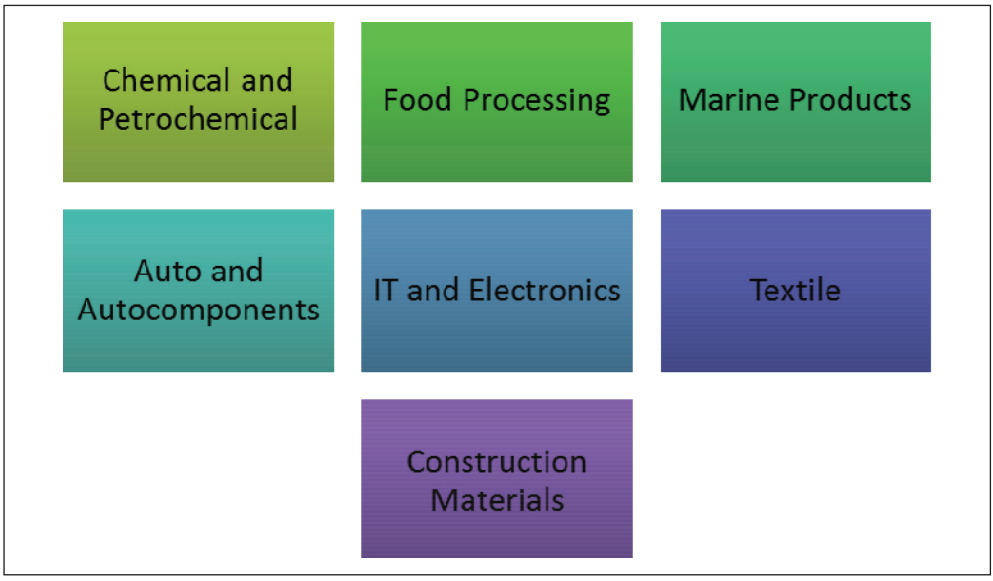
The potential export sectors for the Krishna district are chemical and petrochemical; processed food; marine products; auto and auto components; IT and electronics; textile; and construction materials.

Guntur District

Resource Base

The district is home to several varieties of granite and also has substantial

Exhibit 21: Potential Export Sectors for Krishna



cement grade limestone deposits. In addition, Guntur has a rich base of iron ores, copper, zinc, silver and other base metals. The district also has reserves of diamonds, quartz, silica sand, and slate. Nearly one-fourth of the total area sown in Guntur district is under non-food crops, of which cotton is a significant produce. Guntur also has the largest area under chilli production, among all the districts of the State. In fact, the district is the biggest spot market for chilli in the country.

Industrial Activities

There is a strong presence of textile industry in the district which is also evident from the IEMs filed in the district. A total of 36 IEMs were filed in the Guntur district during the period 2012-13 to 2015-16, with more than one-third being in the textile sector. An Integrated Textile Park coming up at Edlapadu on Guntur-Chennai National Highway is expected to provide a further boost to the textile sector of the district. Another major sector is that of construction materials, comprising cement, granite, clinkers, etc. with 11 IEMs field in this sector during the period under consideration (Table 31).

As on November 2014, investments to the tune of Rs. 6,070 Crore were made in large and mega industrial projects, and another Rs. 2,024.20 Crore in MSMEs. The district has clusters for engineering equipment, furniture, stone, food processing, textiles, rice mills, steel, puppets, embroidery, stone carving, lacquerware, etc.

Table 31: Number of IEMs Filed in Guntur District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Textile	13
Construction Materials	11
Power Generation (Conventional and Non-Conventional)	6
Information Technology	1
Cattle	1
Paper and paper products	1
Marine Products	1
Animal Feed	1
Processed Food	1
Total	36
Titanium dioxide slag	1
Total	**35**

Source: DIPP, Exim Bank Research

Between January 2003 and November 2016, a total of 5 greenfield FDI projects were recorded in the district. These projects represented a total capital investment of US$ 180.0 mn. One FDI project each was recorded in the sectors of business services, communications, financial services, software and IT services and transportation.

Export Potential

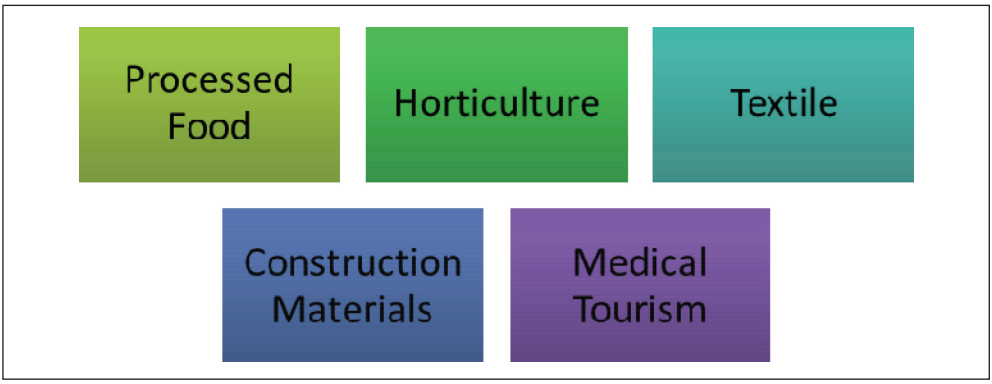
The district already has a well-established textile and construction materials industry, and there exists substantial scope for exports from these sectors. The district is also an important centre for export of tobacco, cotton and chilli. Enhancement in capacities for greater value addition and processing of agricultural produce can improve the prospects for exports of processed food from the district. A healthcare city with an investment of Rs. 1000 Crore is also being set up in Amravati which can contribute to the foreign exchange earnings from the State through medical tourism.

Prakasam District

Resource Base

Prakasam has mineral deposits of barytes, iron ore, kyanite, quartz,

Exhibit 22: Potential Export Sectors for Guntur



slate, and granite. More than one-third of the total sown area of the district is under non-food crop. Tobacco, cotton and Bengal gram are some of the major commercial crops grown in the district. The district is also rich in inland and marine fish, and prawn resources.

Industrial Activities

Unlike other district of Andhra Pradesh, the industrial investments in case of Prakasam is significantly higher for MSME sector than the large and mega enterprises segment. While nearly Rs. 4,164.5 Crore was invested in MSME units as on November 2014, large and mega enterprises received investments of Rs. 1,526 Crore. Concomitantly, the employment generation from MSME sector was significantly higher at 262,081, as against 16,014 for the large and mega enterprises. The district has clusters for stone, agarbatti sticks, rice mills, granite processing, stone carving, embroidery, etc.

During the period 2012-13 to 2015-16, a significant number of IEMs were filed in the sectors of granite, marine products and processed food (Table 32). The district is set to witness an influx of investment in the manufacturing sector with the setting up of the National Investment and Manufacturing Zone at Pamuru.

Export Potential

Currently, marine products and granite blocks are important export items from the district. Processed food and textile also have significant export potential.

Table 32: Number of IEMs Filed in Prakasam District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Power Generation (Conventional and Non-Conventional)	5
Granite	5
Marine Products	3
Processed Food	3
Paper and Paper Products	2
Chemical and Allied Products	2
Quartz	1
Textile	1
Alcohol	1
Agriculture Warehousing	1
Total	**24**

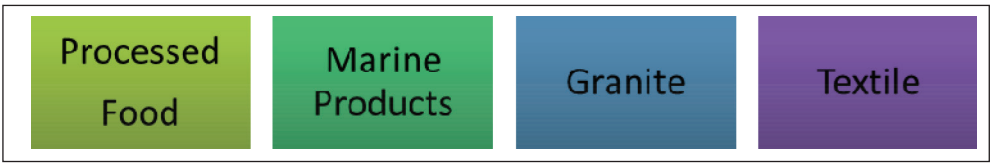
Source: DIPP, Exim Bank Research

Kurnool District

Resource Base

Dolomite, diamonds, gold ore, iron ore, lead and zinc, limestone, ochres, quartz, quartzite, silica sand, steatite, marble, and granite are the minerals found in the Kurnool district. The district has close to 40 percent of its total sown area under non-food crops. Groundnut, sunflower, tobacco are some of the non-food crops grown

Exhibit 23: Potential Export Sectors for Prakasam



in the district. The district is also a leading producer of tomatoes and onions.

Industrial Activities

As per the data for Kurnool district, during 2012-13 to 2015-16, maximum number of IEMs were filed in the chemical and allied product category. The district has considerable potential for development of solar energy due to high solar insolation in the region, as also for wind power generation on account of high wind velocity. Accordingly, a significant number of IEMs were also filed in the power generation sector. There is also a strong presence of textile based industries in the district (Table 33).

Table 33: Number of IEMs Filed in Kurnool District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Chemical and Allied Products	15
Power Generation (Conventional and Non-Conventional)	14
Construction Materials	5
Processed Food	2
Pig Iron	1
Wood and Wood Products	1
Iron Ore Concentrates	1
Plastic and Plastic Products	1
Total	**40**

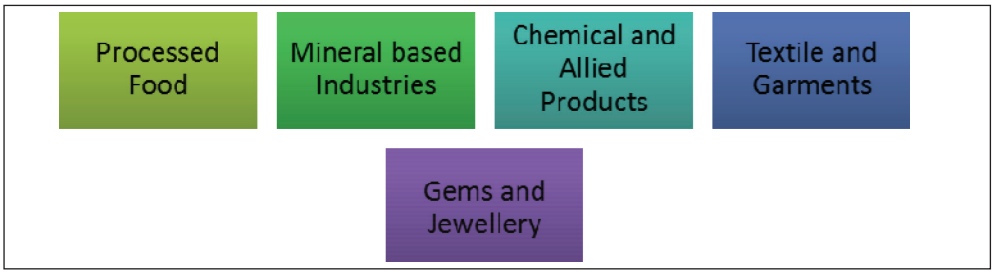
Source: DIPP, Exim Bank Research

As on November 2014, investments in MSMEs in Kurnool amounted to Rs. 481.75 Crore, while investments in large and mega industrial enterprises amounted to Rs. 6,622 Crore. While the former generated employment for nearly 40,126 people, the latter led to employment of close to 21,217 people. Between January 2003 and November 2016, a total of 4 greenfield FDI projects were recorded in the district, with a total capital investment of US$ 215.60 mn. These projects were in the area of financial services, alternative/renewable energy and business services.

Export Potential

On account of the resource endowments of the district, there is substantial scope for exports from the food processing, minerals, and gems and jewellery sector. As the district has received substantial investments in the chemical and allied products sector over the past few years, there exists significant export potential in this area as well.

Exhibit 24: Potential Export Sectors for Kurnool



Kadapa District

Resource Base

The Kadapa district has the world's largest and best quality deposits of barytes. The district also has high grade asbestos of Chrysotile and rare hard mineral Fullerene which finds application in material science, electronics and nanotechnology. Kadapa district is one of the only two places in the world where Fullerene is found. The district also has resources for construction material industry. There is substantial limestone deposits suited for cement manufacturing, and eponymous stones known as 'Kadapa stone' which are used in construction.

Nearly half of the total area sown in the district is dedicated to non-food crop. The major crops grown in the district are paddy, red gram, Bengal gram, groundnut and cotton. The district also has substantial horticultural production, and has significant production of tomatoes and onions. Fruit crops of mango, banana, melons, papaya, etc. are also abundantly grown in the district. Other commercial crops such as turmeric, chilli, coriander and chrysanthemum are also important produce from the district.

Industrial Activities

The industrial base in Kadapa district is largely concentrated in agro and food processing, and minerals industry. Construction materials is also an important industry for the district as the highest number of IEMs were filed in this sector during the 2012-13 to 2015-16 period (Table 34). As on November 2014, overall investments

Table 34: Number of IEMs Filed in Kadapa District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Construction Material	5
Power Generation (Conventional and Non-Conventional)	4
Barytes	3
Textile	1
Iron Ore	1
Total	**14**

Source: DIPP, Exim Bank Research

Exhibit 25: Potential Export Sectors for Kadapa

in large and mega industrial projects was Rs. 5,960 Crore and in MSMEs was Rs. 1,287.63 Crore. The district has few clusters in the areas of handicrafts and handloom.

Between January 2003 and November 2016, a total of 4 greenfield FDI projects were recorded in the district in the sectors of building and construction materials, consumer products and financial services. These projects represented a total capital investment of US$ 453.0 mn.

Export Potential

Food processing and mineral based industries in the district have significant export potential. The district has the largest barytes deposit in the world, and positions India as one of the leading producers and exporters of barytes in the world. The construction materials industry comprising cement, clinkers, concrete, etc. is another important industry from an export perspective.

Chittoor District

Resource Base

The southernmost district of Chittoor has nearly 31 percent of its area under forest cover. Of the total sown area, more than 40 percent is under non-food crops. Chittoor is among the major producers of mangoes in the State, which has led to concentration of fruit canning units in the district. Gold ore, quartz, steatite, granite are some of the major minerals found in the district.

Industrial Activities

There is a wide array of industries in Chittoor district. During 2012-13 to 2015-16, nearly 83 IEMs were filed in the district - the highest among all the districts of Andhra Pradesh (Table 35). Maximum number of IEMs during this period were filed in granite and other stones sector, closely followed by processed food. Iron and steel, auto and auto components, and capital goods were the other top sectors. Chittoor also has a strong presence of textile based industries.

The district also has a strong base for electronics industry. During the period under consideration, three IEMs were filed in the electrical and electronics sector, while two others were filed for mobile phone production. The Sri Venkateswara Mobile and Electronics

Manufacturing hub in Tirupati, Chittoor has four large Indian mobile manufacturers. The district has also been designated as a brownfield EMC.

Table 35: Number of IEMs Filed in Chittoor District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Granite and Other Stones	14
Processed Food	12
Iron and Steel	8
Auto and Auto Components	6
Capital Goods	6
Paper and Paper Products	5
Power Generation (Conventional and Non-Conventional)	5
Consumer Goods	5
Plastic Products	4
Electrical and Electronics	3
Alcohol	2
Aluminium Products	2
Textile and Garments	2
Logistics and Warehousing	2
Mobile Phones	2
Poultry	1
Leather and Leather Products	1
Wood and Wood Products	1
Drugs and Pharmaceuticals	1
Agro Trading	1
Total	**83**

Source: DIPP, Exim Bank Research

As on November 2014, the large and mega industrial projects in the district had an overall investments of Rs. 3,917 Crore, while MSMEs units had Rs. 950.95 Crore of investments. The district has clusters in the sectors of auto components, granite, textiles, food processing, jewellery, metal work, woodwork and lacquerware, etc.

The Government plans to further augment the industrial capacities in the district. A world-class Automotive Suppliers' Manufacturing Centre (ASMC) is expected to come up in the district, in addition to auto clusters. Proposed to be set up on PPP basis, the ASMC is expected to help manufacturers in achieving desired product quality, reliability and cost competitiveness. An ultra-mega food park is also expected to be developed in Kuppam with state-of-art infrastructure. Further, the integrated business city known as Sri City includes an SEZ for export business.

Between January 2003 and November 2016, a total of 38 greenfield FDI projects were recorded in the district, majority of it in Sri City. These projects represented a total capital investment of US$ 2.19 billion. Maximum number of projects were recorded in the industrial machinery, equipment and tools sector, while the highest capital expenditure was recorded in the metals sector (Table 36).

Table 36: Top Sectors receiving Greenfield FDI in Chittoor District (January 2003- November 2016)

Industry Sector	Projects	Capex (US$ Mn)
Industrial Machinery, Equipment & Tools	7	90.1
Metals	6	444.4
Consumer Products	4	160.7
Food & Tobacco	3	373
Automotive Components	2	61
Business Services	2	3.9
Communications	2	123.8
Financial Services	2	99.4
Others	10	829.6

Source: fDi Markets

Export Potential

Owing to the large industrial base in Chittoor, the district has substantial export potential in the sectors of capital goods, electrical and electronics, textile and garments, auto and auto components, food processing, and metal and metal processing. Tourism is also an important foreign exchange avenue for the district.

Nellore District

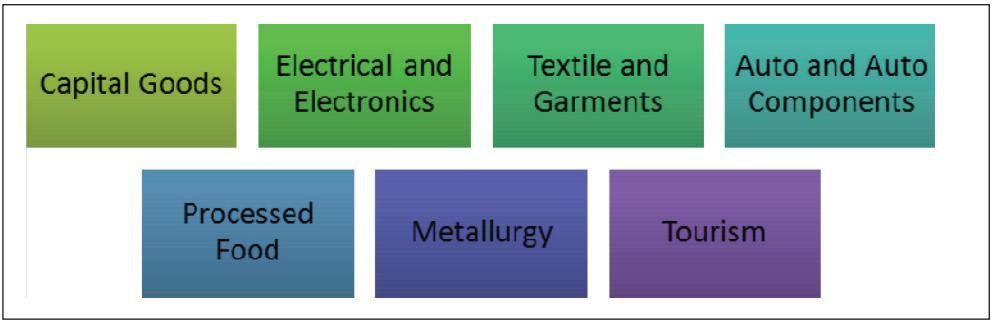
Resource Base

Barytes, China clay, copper ore, feldspar, gypsum, laterite, limeshell, mica, quartz, silica sand, and vermiculite are some of the key minerals found in the district. Nellore has the largest tobacco cultivation in Andhra Pradesh. The district is also famous for rice production and aquaculture.

Industrial Activities

As on November 2014, the large and mega industrial projects in Nellore district registered investments of Rs. 4,858 Crore, and the MSME sector recorded investments of Rs. 578.50 Crore. The district has been designated as a brownfield EMC. It is also home to several cement industries. According to the data for IEMs filed in the district, iron and steel, marine products, construction material, drugs and pharmaceutical, and chemical and allied products are some other key sectors for the district

Exhibit 26: Potential Export Sectors for Chittoor



(Table 37). The State has clusters in the area of food processing, leather, woodwork, embroidery, kalamkari printing/painting, etc.

Although there is robust industrial infrastructure in the district, further development is also planned. The district has several SEZs viz. Apache SEZ Development India Pvt Ltd., Andhra Pradesh Investment Infrastructure Corp. Ltd. SEZ, Mas Fabric Park (India) Pvt. Ltd., Bharatiya International SEZ, IFFCO Kisan SEZ. An Aerospace and Defence Park is expected to come up in the district on PPP basis. Another ASMC is planned to be developed on a PPP basis.

Table 37: Number of IEMs Filed in Nellore District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Power (Conventional and Non-Conventional)	8
Iron and Steel	7
Marine Products	5
Construction Material	5
Processed Food	4
Drugs and Pharmaceuticals	4
Chemical and Allied Products	4
Gypsum Products	2
Auto and Auto Components	2
Wind Energy Equipment	2
Wood and Wood Products	2
Animal Feed	2
Capital Goods	2
Warehousing	1
Packaging	1
Quartz	1
Ceramic	1
Plastic Products	1
Textile	1
Total	**55**

Source: DIPP, Exim Bank Research

Between January 2003 and November 2016, a total of 13 greenfield FDI projects were recorded in the district, with a total capital investment of US$ 4.20 bn. Automotive components; coal, oil and natural gas; and metals received 2 projects each during this period. Highest capital investment was in the sector of coal, oil and natural gas (Table 38).

Table 38: Top Sectors receiving Greenfield FDI in Nellore District (January 2003- November 2016)

Industry Sector	Projects	Capex (US$ Mn)
Automotive Components	2	405.7
Coal, Oil and Natural Gas	2	3000.0
Metals	2	222.4
Others	7	572

Source: fDi Markets

Export Potential

Based on the resource profile, and existing and upcoming export infrastructure in the district, food processing, marine products, leather,

Exhibit 27: Potential Export Sectors for Nellore

textile and garments, auto and auto components, electronics, iron and steel, construction material, and drugs and pharmaceutical have been identified as the potential sectors for export.

Anantapur District

Resource Base

The district has large deposits of dolomite, gold, iron ore, diamond and limestone. It has also been identified as one of the best areas for wind power generation in India. The arid climate and high solar insolation also provide great potential for solar energy.

Close to three-fourth of the total area sown in the district is under non-food crops. The district is one of the largest producers of groundnut in Andhra Pradesh, and also accounts for 46 percent of total cropped area for Mulberry.

Industrial Activities

As on November 2014, the district had investments of Rs. 5,212 Crore in large and mega industrial establishments and Rs. 536.27 Crore in MSMEs. Given the significant potential for non-conventional power generation in the district, several IEMs have been filed in this sector. The power sector accounted for more than three-fourth of the total IEMs filed in the district during the period 2012-13 to 2015-16 (Table 39).

Anantapur also has a concentration of steel re-rolling mills, and several units have been coming up in the iron and

steel sector over the past few years. During the period under consideration, the second largest number of IEMs was filed in this sector.

The significant mulberry production in the district has also led to the development of the local textile and garments industry. The district is famous for the Dharmavaram silk sarees.

Table 39: Number of IEMs Filed in Anantapur District (2012-13 to 2015-16)

Sector	Number of IEMs Filed
Power Generation (Conventional and Non-Conventional)	37
Iron and Steel	5
Processed Food	1
Electronics	1
Granite	1
Chemical	1
Textile and Garments	1
Wind Power Equipment	1
Total	**48**

Source: DIPP, Exim Bank Research

Establishment of several defence manufacturing clusters have been planned in the district. The upcoming Bharat Electronics Ltd. Defence Systems Integration Complex in the district is spread over an area of 914 acres, and aims at further strengthening the defence capabilities in the country and enable manufacturing, integration and testing of ongoing and upcoming projects in the area of Surface-to-Air Missile Systems. The Vittal Innovation City in the district also intends to set up a dedicated Aerospace and Defence park.

The district has also received some greenfield foreign investments. Between January 2003 to November 2016, a total of 3 greenfield FDI projects were recorded in the district in the sectors of financial services, industrial machinery, and metals.

Export Potential

The experience gained by local companies in the power sector can be leveraged for exporting high-value machinery, labour, expertise, and technology packaged as project EPC.

Based on the current industrial structure, textile and garments, and iron and steel emerge as the key export areas. The Government is also promoting the aerospace and defence sector, which can emerge as a major foreign exchange earner for the district. The presence of gold and diamond reserves in the district also presents potential for development of gems and jewellery industry.

Exhibit 28: Potential Export Sectors for Anantapur

MARKET IDENTIFICATION FOR EXPORTS FROM THE STATE

While exports from Andhra Pradesh have registered robust increase in the recent past, in order to continue this trend forward, it might be essential to identify key products and markets which provide opportunities for companies to grow and achieve economies of scale, as also increase their efficiency levels. The State has significant comparative advantage in several products, which can be explored for boosting exports.

The present section undertakes an analysis of the products where the State's exports have demonstrated comparative advantage. Quantification of comparative advantage will help in identifying not only products where exports from the state have been performing well but also those where success has been limited.

Competitiveness Indicators

Revealed Comparative Indices are used to identify categories of exports in which an economy has a comparative advantage by way of comparison of the country's trade scenario with the world scenario. The basic assumption underlying the concept of revealed comparative advantage is that trade profile reflects the inter-country differences in terms of relative costs as well as non-price aspects. As per Balassa's (1965) measure, index for country i, commodity j is—

$$RCA_{ij} = \frac{(X_{ji}/X_i)}{(X_{jw}/X_w)}$$

Where,

X_{ji}: exports of commodity j from country i

X_i: total exports from country i

X_{jw}: total exports of commodity j from world

X_w: total exports from world

The RCA index ranges from 0 to infinity, with 1 as the break-even point. That is, an RCA value of less than 1 means that the product does not have a comparative advantage, while a value above 1 indicates that the product has a comparative advantage. The normalized revealed comparative advantage (NRCA) index has been demonstrated capable of revealing the extent of comparative advantage that a country has in a commodity more precisely and consistently than other alternative RCA indices in the

literature. NRCA can be defined in the following manner-

$$NRCA_{ij} = \frac{(RCA_{ij} - 1)}{(RCA_{ij} + 1)}$$

NRCA ranges from -1 to 1 with 0 as the breakeven point. That is, an NRCA value of less than 0 and greater than -1, means that the product has no export comparative advantage, while a value above 0 and less than 1, indicates that the product has a comparative advantage. The extent of comparative advantage/disadvantage can be gauged from the proximity of the NRCA values to the extreme data points, viz. +1 and -1.

An attempt has been made to map the global demand with Andhra Pradesh's export competitiveness, with a view to outline a market specific approach for exporters. A generic analysis has been attempted in order to identify products that have strong capabilities to export. Also analyzed are the current markets for these exports and the key competitors which India faces. These products and markets are the potential growth drivers for Andhra Pradesh's exports and need to be suitably targeted.

The Study also attempts to identify the products where Andhra Pradesh could focus on, to realize potentially higher values, especially when considering that the State already possesses manufacturing capabilities for these products. The idea is to construct a product market matrix for products in demand along with the major demand centres (importers), and the key exporters to these regions (competitors).

The analysis in this section considers three major determinants of Andhra Pradesh's performance in overseas markets, namely the NRCA for products at the State level, Annual Average Growth Rate (AAGR) for global imports, and the value of global imports. On the basis of these three considerations, a four quadrant bubble chart is prepared for product identification. The size of the bubble represents the relative import demand of the products. The four quadrants imply the following:

- **Product Champions (positive AAGR; positive NRCA):** These products have the maximum potential, as the import demand for these products has shown robust AAGR over the period 2011-2015, while Andhra Pradesh's exports of these products to the region are competitive.
- **Underachievers (positive AAGR; negative NRCA):** Andhra Pradesh does not have competitiveness in these products, while their import demand has grown significantly over the period under consideration. The State can strive towards increasing

competitiveness in these markets for the identified products.

- **Losers in Declining Sectors (negative AAGR; negative NRCA):** Andhra Pradesh does not have competitiveness in these products, and these sectors have also registered weak growth during the period under consideration.
- **Achievers in Adversity (negative AAGR; positive NRCA):** Andhra Pradesh has competitiveness in these products, but the AAGR for these products has been weak.

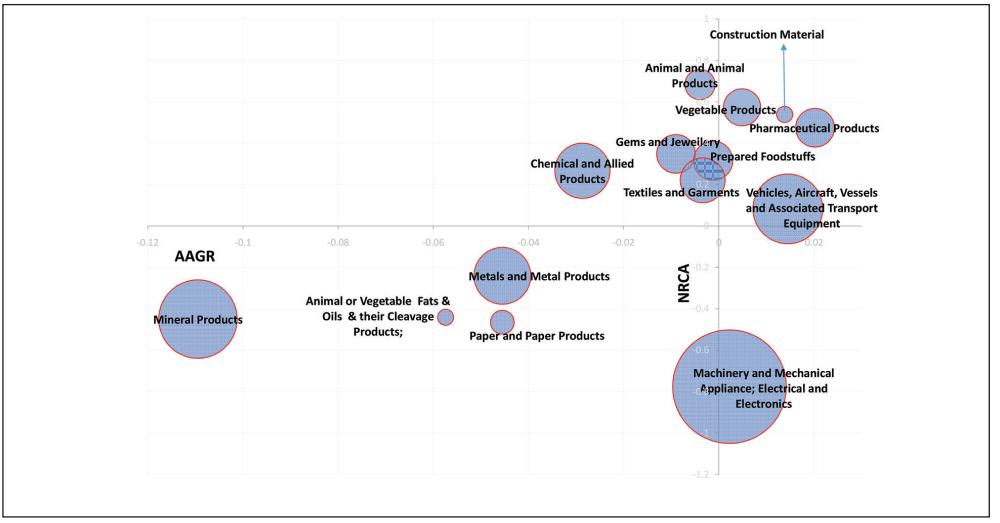
Product Identification

A total of 18 product groups (Annexure 1) have been considered for categorization. Based on the methodology outlined above, 4 product groups have been identified under product champions, 3 product groups under underachievers, 6 under declining sectors, and 5 product groups under achievers in adversity (Exhibit 29).

Vegetable products, construction material, pharmaceutical products, and vehicles, aircraft, vessels and associated transport equipment have been identified as the product champion categories. Andhra Pradesh has comparative advantage in exports of these products, and the global import demand for these products has been robust.

In the category of vegetable products, China, the USA, Germany, Japan, and the Netherlands are the top importers in the world. Out of these, India is among the top five supplier countries only in

Exhibit 29: Identification of Promising Products for Exports from Andhra Pradesh



Source: TradeMap, ITC, Exim Bank Research

case of the USA. Andhra Pradesh accounts for nearly 8.4 percent of the exports of these products from India. The top destinations for exports from the State are Vietnam, Sri Lanka, the USA, Guinea and Senegal. The State could consider focusing on exports to major importing countries such as China, Germany, Japan, and the Netherlands (Table 40).

In case of construction materials, India is the seventh largest exporter in the world. However, its exports to most of the top five importing countries are limited. Andhra Pradesh accounts for 12.9 percent of India's exports, and its top export destinations under this category are the USA, Turkey, Saudi Arabia, UAE, the UK, Egypt, Vietnam, Algeria and Libya. The State can focus on exports to top importers such as Germany, France, and South Korea (Table 40).

Andhra Pradesh accounts for about 9.0 percent of India's total pharmaceutical exports. India's success in penetrating the top markets for pharmaceuticals has been limited, except in case of the USA where it is the fourth largest import source. The USA is also the largest export destination for Andhra Pradesh, with the African countries of South Africa, Kenya, Ghana and Mozambique being the other major destinations for exports (Table 40).

The export of vehicles, aircraft, vessels and associated transport equipment from Andhra Pradesh are largely geared towards the Asian markets of Malaysia, Japan, Sri Lanka, Singapore, etc. This is at variance to the top markets for these products. The State can explore opportunities in these yet unexplored but major markets (Table 40).

Machinery and mechanical appliance; electrical and electronics; optical, measuring, medical and similar instruments and parts; and leather and leather products are the underachiever categories. It is essential to improve competitiveness and increase manufacturing capabilities in these product categories which have shown robust import growth.

Table 40: Top Importers in Product Champions Category and their Major Supplier Countries

Product Champion	Importers	Value of Import (2015; US$ Mn)	Major Supplier Countries	India's Rank as Supplier	Estimated Share of Andhra Pradesh in India's Exports (2015)	Top Destinations for Exports from Andhra Pradesh
Vegetable Products	China	59789.4	Brazil, The USA, Thailand, Argentina, Canada	20	8.4%	Vietnam, Sri Lanka, The USA, Guinea, Senegal, Thailand, Cote D' Ivoire, Malaysia, Indonesia, Liberia
	The USA	43836.3	Mexico, Canada, Chile, Colombia, India	5		
	Germany	32817.2	The Netherlands, Spain, Italy, France, Brazil	14		
	Japan	19827.8	The USA, China, Canada, Brazil, Philippines	15		
	The Netherlands	19458.3	Germany, Belgium, France, The USA, Spain	22		
	World	478472.3	The USA, Brazil, The Netherlands, China, Canada	8		
Construction Material	The USA	14159.0	China, Mexico, Italy, Brazil, Canada	8	12.9%	The USA, Turkey, Saudi Arabia, UAE, The UK, Egypt, Vietnam, Algeria, Libya, Italy
	Germany	6170.5	China, Italy, The USA, Poland, Austria	16		
	The UK	3731.7	China, Germany, Spain, Italy, The USA	10		
	France	3697.6	Italy, Spain, Germany, China, Belgium	14		
	South Korea	2880.9	China, Japan, The USA, Germany, The UK	14		
	World	91065.1	China, Italy, Germany, The USA, Spain	7		

Pharmaceutical Products	The USA	86073.9	Ireland, Germany, Switzerland, India, Israel	4	9.0%	The USA, South Africa, Kenya, Ghana, Mozambique, Russia, Tanzania, Brazil, Hungary, Germany
	Germany	45673.3	The Netherlands, The USA, Switzerland, Ireland, France	17		
	Belgium	36300.5	The USA, Ireland, Italy, France, Germany	17		
	The UK	33744.3	Germany, The Netherlands, Switzerland, Belgium, The USA	11		
	Japan	23186.4	Ireland, The USA, Germany, Switzerland, France	24		
	World	517444.4	Germany, Switzerland, The USA, Belgium, The UK	10		
Vehicles, Aircraft, Vessels and Associated Transport Equipment	The USA	324189.6	Mexico, Canada, Japan, Germany, South Korea	15	7.7%	Malaysia, Japan, Sri Lanka, Singapore, The USA, UAE, Bangladesh, Bhutan, Nepal, Mexico
	Germany	130317.7	France, The USA, Czech Republic, Spain, The UK	27		
	China	99964.6	The USA, Germany, Japan, The UK, France	33		
	The UK	96521.6	Germany, The USA, Belgium, France, Spain	25		
	France	86881.9	Germany, Spain, The USA, Italy, The UK	26		
	World	1686902.0	Germany, The USA, Japan, South Korea, China	17		

Source: DGCIS, Exim Bank Research

4. INVESTMENT SCENARIO

At the time of State bifurcation, Andhra Pradesh lost the two most industrialised districts - Hyderabad and Rangareddy. This made acceleration in investment activity an imperative for economic and exports growth from the State.

In spite of the setback on account of the State bifurcation, Andhra Pradesh has emerged as an important investment destination in India and offers conducive environment for business to flourish. Investor friendly policy and business environment, coupled with availability of reliable power, large industrial land banks, skilled labour, and robust infrastructure has made the State a globally competitive investment destination. Among its ambitious plans is building a world-class greenfield capital city at Amaravati.

Andhra Pradesh has not only been a major recipient of domestic investment, but also of FDI. FDI, an important source of capital, supplements domestic private investment, boosts economic growth, leads to employment generation and may also facilitate technology transfer, in recipient countries. Recognizing the importance of FDI for economic development, the Government of India has started the 'Make in India' programme which aims at promoting the country as an important investment destination and a global hub for manufacturing, design and innovation.

INVESTMENT TRENDS

According to CMIE States of India database, in the previous two years, the State has witnessed a spur in investments, both in terms of new investments announced, as well as project completions. On a y-o-y basis, project completion more than doubled to Rs. 196.5 billion in 2014-15, and further increased to Rs. 440.4 billion in 2015-16. This is the highest investment completion seen in the last five years. It is also the second highest investment completion in the entire investment cycle captured since 1995-96.

According to CMIE, new investment announcements also saw a considerable increase during 2014-16. New investment proposals rose significantly to Rs. 713.2 billion in 2014-15. In the subsequent year, a total of 166 new projects worth Rs. 918.5 billion were announced.

The share of Andhra Pradesh in new investments announced at an all-India level rose to over nine percent from an average of 2-6 percent seen in the last five years. The investors meet held in the State during January 2016 played a significant role in contributing to this rise in new investments.

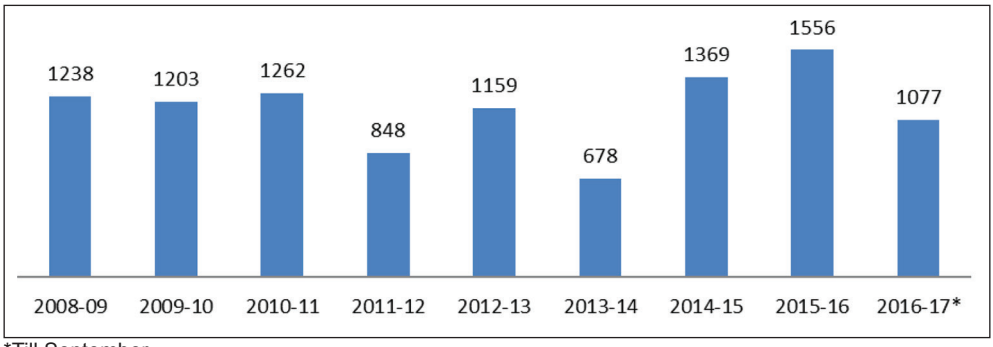
This rise comes over a period of sluggish investment activity during 2012-2014. The divided State of Andhra Pradesh had seen a peak in investment activity during 2008-09 to 2011-12. Investment completion and announcement of new projects tanked in the subsequent two years. Investment announcements during this period fell by nearly 80 percent to 229.4 billion in 2012-13. It grew only marginally by 25.7 percent in 2013-14. Similarly, investment completion dipped by 55 percent to 65.9 billion in 2012-13[15].

After the bifurcation, Andhra Pradesh has seen announcement of various policy incentives such as single desk clearance mechanism, reimbursement on value added tax (VAT)/ central sales tax (CST), capital subsidies and energy subsidies, among others, to support the growth of investment flows in the State. It has also succeeded in implementing policy reforms to become the most business-friendly State in India, according to the World Banks Ease of Doing Business report.

FDI TRENDS IN ANDHRA PRADESH

According to DIPP, FDI equity inflows in Andhra Pradesh (including Telangana) more than doubled from US$ 678 million in 2013-14 to US$ 1,556 million in 2015-16 (Exhibit 30). During April 2000-December 2016, the state received US$ 12.6 billion of FDI equity inflows, accounting for 4 percent of the total FDI equity inflows in India.

Exhibit 30: Foreign Equity Inflows in Andhra Pradesh (US$ Mn)



*Till September
Source: DIPP

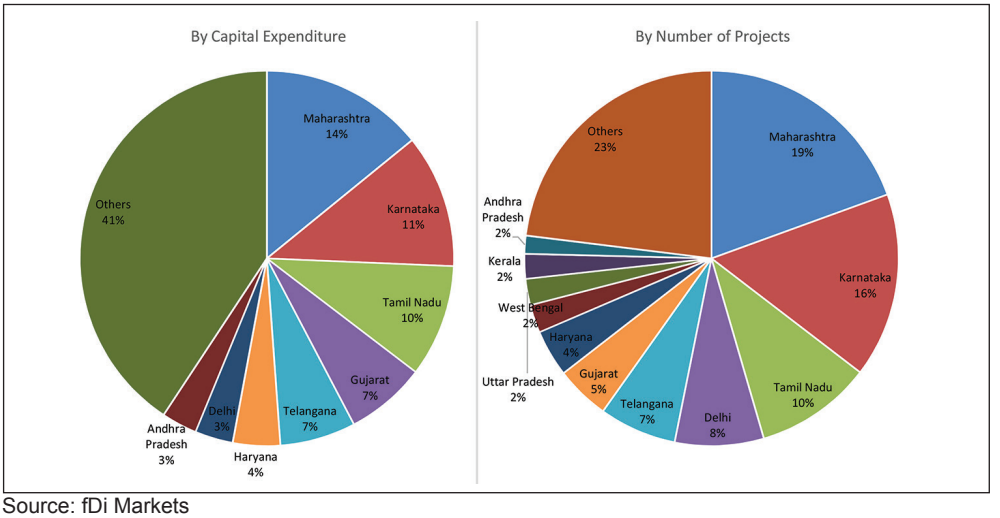
[15]CMIE

To enable a thorough understanding of the greenfield FDI flows coming into Andhra Pradesh, data from fDi Markets database of the Financial Times has been used for analysis in the current study. fDi Markets tracks cross-border investment in a new physical project or expansion of an existing investment which creates new jobs and capital investment. Joint ventures are only included where they lead to a new physical operation[16].

According to the data for greenfield foreign capital expenditure, Andhra Pradesh accounted for 3 percent of the total investment during Jan 2003-November 2016 (Exhibit 31). The State received nearly 2 percent of the total number of greenfield projects in India.

Between January 2003 and Nobember 2016, a total of 166 foreign capital expenditure projects by 132 companies were recorded in the State of Andhra Pradesh (Exhibit 32). These projects represented a total capital investment of US$ 17.24 bn which is an average investment of US$ 103.9 mn per project. Both the number of FDI projects and the total foreign capital investment registered robust y-o-y growth in 2015. In the eleven months of 2016, Andhra Pradesh received US$ 4.7 bn of foreign

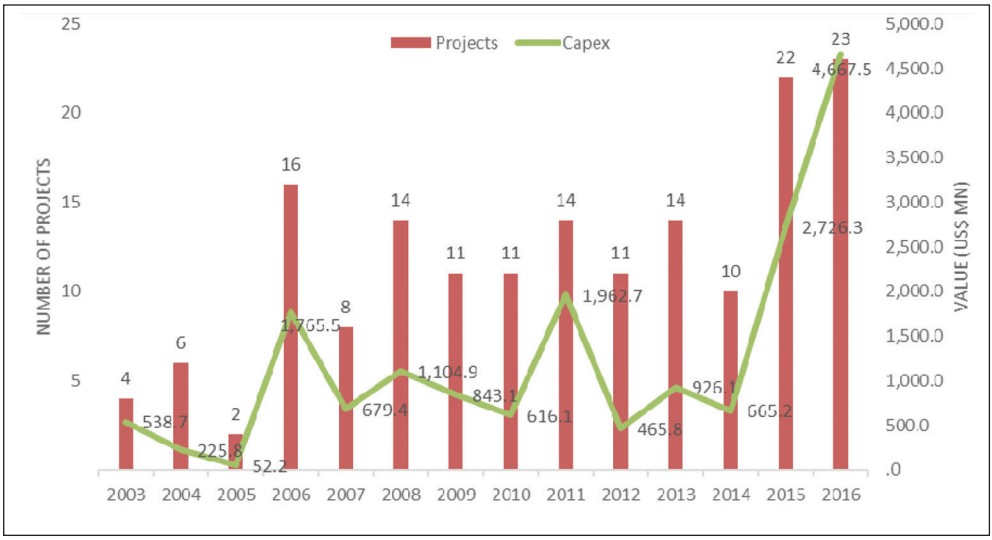
Exhibit 31: State-wise Foreign Capital Expenditure in India (January 2003-November 2016)



Source: fDi Markets

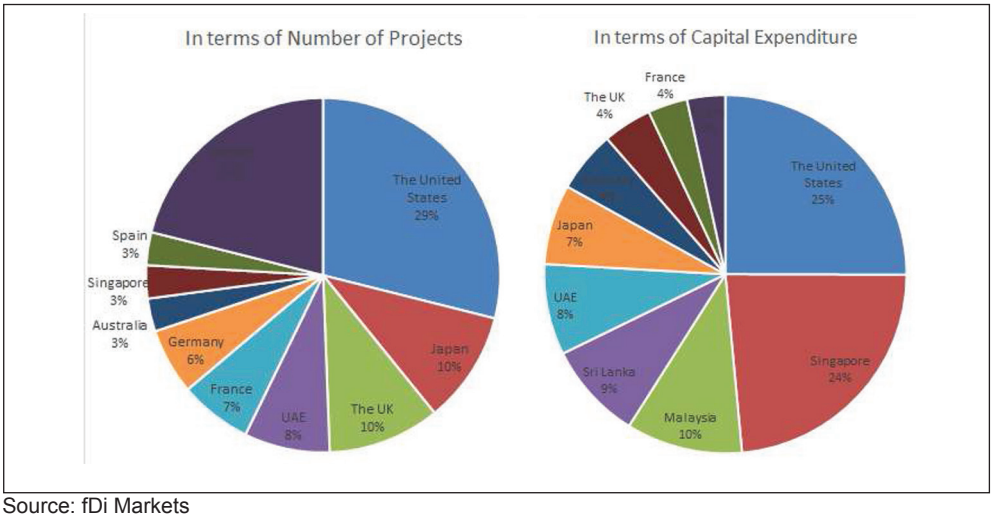
[16]The data on capital investment and job creation is based on the total investment the company is making at the time of the project announcement or opening. As companies can raise capital locally, phase their investment over a period of time, and can channel their investment through different countries for tax efficiency the data is different to the official data on FDI flows. The data from fDi Markets is more accurate and a real time indicator of the real investment companies are making in their overseas subsidiaries.

Exhibit 32: Foreign Capital Investment in Andhra Pradesh



Data for 2016 is till November
Source: fDi Markets

Exhibit 33: Top Source Countries for Foreign Capital Investment in Andhra Pradesh (Jan 2003-Nov 2016)



Source: fDi Markets

capital investment from 23 projects (Exhibit 32).

The USA accounted for the largest share in total number of greenfield FDI projects and foreign capital investments in Andhra Pradesh, with shares of 29 percent and 25 percent, respectively. In terms of number of FDI projects, Japan (share of 10 percent), the UK (share of 10 percent), UAE

(share of 8 percent), and France (share of 7 percent) were the other top source countries, while in terms of foreign capital investment, Singapore (share of 24 percent), Malaysia (10 percent), Sri Lanka (9 percent) and UAE (8 percent) were the top source countries (Exhibit 33).

Maximum greenfield foreign capital expenditure was received in the coal, oil and natural gas sector, accounting for 7.6 percent of the total inflows at an all-India level (Table 41). The other major sectors (in terms of absolute value of FDI) were metals (share of 3.4 percent in India), chemicals (14.5 percent), textiles (21.7 percent) and financial services (2.6 percent). The State also received nearly 14.3 percent of the total investment in India's medical devices sector.

Table 41: Top Industry Sectors Receiving Foreign Capital Expenditure (Value in US$ Mn; January 2003-November 2016)

Destination States	Andhra Pradesh	India	Share %
Coal, Oil and Natural Gas	3,436.1	45,188.2	7.6%
Metals	2,087.8	60,716.3	3.4%
Chemicals	2,042.2	14,121.6	14.5%
Textiles	1,119.5	5,149.9	21.7%
Financial Services	959.1	37,492.9	2.6%
Automotive OEM	681.1	38,646.5	1.8%
Real Estate	532.5	37,887.9	1.4%
Building & Construction Materials	515.0	9,442.4	5.5%
Food & Tobacco	483.6	10,386.1	4.7%
Automotive Components	480.2	19,050.7	2.5%
Non-Automotive Transport OEM	459.7	6,140.1	7.5%
Medical Devices	433.7	3,033.5	14.3%
Warehousing & Storage	400.7	12,062.9	3.3%
Beverages	396.9	3,153.1	12.6%
Software & IT services	370.3	33,131.1	1.1%
Alternative/Renewable energy	359.8	27,641.1	1.3%
Paper, Printing & Packaging	346.4	2,027.4	17.1%
Business Services	344.3	12,779.2	2.7%
Consumer Products	342.3	17,911.5	1.9%
Others	1,448.2	1,25,243.1	1.2%
Total	**17,239.3**	**5,59,893.5**	**3.1%**

Source: fDi Markets

Dunning (1993) provides four different motivations for FDI: a) market seeking investment for accessing new markets, b) resource seeking investment for specific resources found in foreign territories, c) strategic asset seeking investment for expanding the set of firm's proprietary resources, and d) efficiency seeking investment with a view to reduce cost. Hence, factors such as business environment, labour market efficiency, large market size, robust infrastructure, stable macroeconomic environment, favourable innovation climate, etc. help attract investment.

In the case of investments in Andhra Pradesh, nearly 62.2 percent of the companies cited domestic market growth potential as a key determinant for foreign capital expenditure, followed by proximity to markets or customers (23.1 percent), skilled workforce availability (23.1 percent) and regulations or business climate (9.3 percent) (Exhibit 34). Hence, market seeking and efficiency seeking investments are the major types of investments in the State.

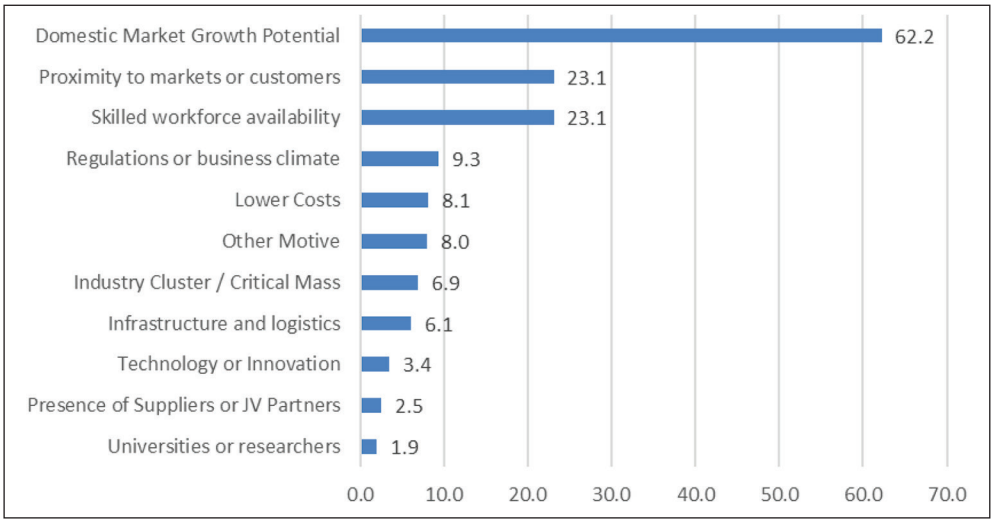
KEY INVESTMENT DRIVERS

This section attempts to analyse the various facets which facilitate foreign investments with the aim of identifying the different areas where there is a scope for improvement for Andhra Pradesh.

Business Environment

The focus of the 'Make in India' programme is not only on the manufacturing sector, but also on promoting entrepreneurship in the country. In December 2014, at the 'Make in India' workshop,

Exhibit 34: Motives for Investment in Andhra Pradesh



Source: fDi Markets

State Governments had agreed upon a 98-point action plan for business reforms in their respective jurisdictions. The DIPP along with the World Bank Group and KPMG took a stock of the reforms carried out by the States in the "Assessment of State Implementation of Business Reforms" report. This included reforms in the areas of setting up a business, allotment of land and obtaining construction permit, complying with environmental procedures, complying with labour regulations, obtaining infrastructure related utilities, registering and complying with tax procedures, carrying out inspections, and enforcing contracts.

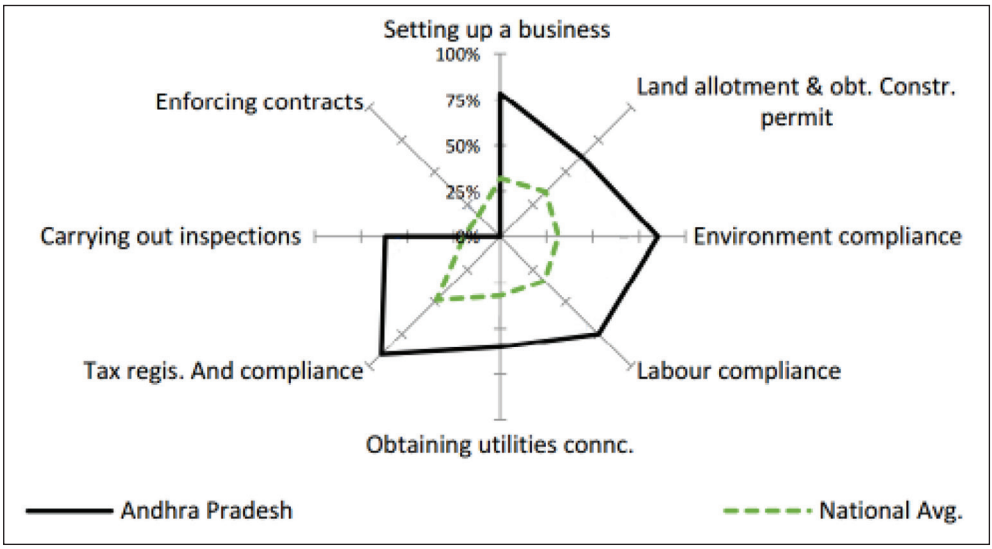
Andhra Pradesh ranked second in the 2015 assessment with a score of 70.1, only one percentage point lower than the State of Gujarat which had the highest score among all States. Andhra Pradesh and Telangana have jointly topped the ease of doing business ranking in 2016. The good practices of the State include a Single Desk Policy 2015-20 with the objective of providing all clearances/approvals within 21 working days to set up an industry. Single Desk Mechanism provides for State clearances required for starting an industry across pre establishment and pre-operation phases. A Chief Minister's dashboard has also been designed and developed as a measure for effective monitoring of the applications received.

A comparison of business reforms in Andhra Pradesh with the national average indicates that the State performed better in all parameters other than enforcing contracts (Exhibit 35). Introducing electronic court systems can further improve the business environment in the State. Electronic court systems reduce the time and cost of filing, administering, tracking and resolving legal disputes, while allowing for more efficient record management in courts and reduction in administrative costs. Several states have already taken initiatives in this direction. For example, Madhya Pradesh has enabled e-summons, Maharashtra allows online payment of court fees, and Sikkim has introduced digitally signed court orders.

In order to further improve the performance in the parameter of enabling contracts, the State should ensure that the vacancies in district courts are sufficiently filled, which is not currently the case[17]. Moreover, specialized commercial courts can also be introduced to focus exclusively on contract disputes. Model contract templates and guidelines should also be made available on web portal.

[17]Source: Assessment of State Implementation of Business Reforms, DIPP, World Bank and KPMG, September 2015

Exhibit 35: Assessment of Business Reforms- Comparison of Andhra Pradesh with National Average



Source: Assessment of State Implementation of Business Reforms, DIPP, World Bank and KPMG, September 2015

Policy Environment

Andhra Pradesh has a robust policy environment. The Industrial Development Policy 2015-20 aims at making the State the most preferred logistics hub and India's gateway to East and Southeast Asia, while attracting investment to the tune of Rs. 2 lakh crore by 2020 and creating employment opportunities for additional 1 million people. The policy targets to increase the contribution of manufacturing to GSDP from 9.95 percent in 2013-14 to 15 percent by 2020, and the contribution of industries to GDP from 20.7 percent to 25 percent during the same period.

The sectors of agro and food processing; life sciences; textile and apparel; electronics and IT; mineral based industry; automobiles and auto components; petroleum, chemicals (including fertilizers) and petrochemicals; energy; leather; and aerospace and defence are the key thrust areas for the Industrial Development Policy in the State. The State also has several sector specific policies suited to the requirements of the respective sectors.

While Andhra Pradesh is expected to steadily gain grounds in these sectors on account of the favourable policy environment and incentive structure, the State also needs to develop policies in high potential niche areas which have substantial growth prospects. This includes segments

Table 42: Select Sector Specific Policies in Andhra Pradesh

Micro, Small and Medium (MSME) Enterprises Policy 2015-20	• Reimbursement of stamp duty, power cost and VAT/CST/SGST • Subsidy on capital investment and skill up-gradation and Training • Seed Capital Assistance for first generation entrepreneurs • MSME revival fund of US$ 16 million in FY 15-16
Food Processing Policy 2015-20	• Incentives for establishment of Food Parks • Power and Capital subsidy for cold chain units • Reimbursements of cost incurred in obtaining quality certifications and marketing initiatives • Capital and interest subsidy for setting up Primary Processing Centres and Primary Collection Centres • Grant for setting up/up-gradation of National Accreditation Board for Testing and Calibration Laboratories accredited testing labs • 100 percent exemption of Agriculture Produce Marketing Committees cess/fees
Aerospace and Defence Manufacturing Policy 2015-20	• Capital subsidy for basic infrastructure development and setting up new units • Reimbursement of cost incurred for patent registration and quality certifications • Specific incentives for Public Sector units and R&D centres • 100 percent Exemption from Entry Tax on 'Plant Machinery and Capital goods'
Electronics Policy 2015-20	• 100 percent reimbursement of Stamp Duty, Transfer Duty and Registration Fee • 100 percent exemption on electricity duty for 5 years from commencement of commercial operations • 10 percent Capital Subsidy on total investment • 6 percent Interest Subsidy for a period of 7 years
Textile and Apparel Policy 2015-20	• Interest subsidy up to 12.5 percent per annum • Power Tariff subsidy at ₹1-1.50 per unit depending on category • 100 percent reimbursement of stamp duty on lease of land • Capital subsidy, linked to investments, ranging from 20 percent of fixed assets to 10 percent of project cost
Biotechnology Policy 2015-20	• Fixed power cost reimbursement of ₹1.50 per unit for 5 years from commencement of commercial production • Technology Acquisition Fund of US$ 1.6 Million to be set up • Additional interest subsidy @ 3 percent per annum on term loans towards purchase of capital equipment necessary for technology up gradation for 5 years • Financial assistance for patent registration
Tourism Policy 2015-20	• Complementary/Linkage Infrastructure Development Assistance • Waiver of Non-Agricultural Land Assessment tax or Land Use Conversion charge • 100 percent reimbursement on Registration and Stamp duty for all tourism infrastructure projects • Investment subsidy for Tourism Services

Automobile and Auto-component Policy 2015-20	• Capital Subsidy for Auto Clusters and Automotive Suppliers Manufacturing Centers developers – 50 percent of fixed capital investment in building and common infrastructure • 75 percent reimbursement of patent cost and 50 percent reimbursement for quality certification • For Mega Integrated Automobile Projects – o 100 percent CST reimbursement for 10 years or GST regime whichever is earlier o Gross VAT/SGST reimbursement on sale of finished goods o 75 percent reimbursement of Gross VAT/SGST for 10 years

Source: Investor Handbook, Government of Andhra Pradesh

such as animation and gaming, organic products, medical devices, etc.

Technology and Innovation

The innovation climate is another crucial element for attracting investment, especially in technology intensive industries. The innovation sphere in Andhra Pradesh is among the best in the country. For interstate comparison of innovation scenarios, Institute for Competitiveness, India has developed the "State Innovation Index" which is a tool for the policymakers to track the innovation activity in the States. The index is built on a framework based on which it seeks to understand the underlying levers that can act to increase or impede the trajectory of India's innovation and growth. The framework has four broad pillars that are divided into sub-pillars and further into indicators for mapping innovation. These factors are important for looking into the present innovation scenario of States as well as ultimately understanding the innovation potentiality of a State.

Andhra Pradesh ranks eighth on the index, and there is a need to focus on leveraging talent and establishing more R&D centres in specific categories. There is also a need to improve the start-up ecosystem, and the State Government has already formulated a policy in this context.

While the State has substantial innovation potential, it has a significantly higher percentage of firms not engaged in R&D activities[18]. R&D is imperative for development of technology intensive sectors, while for other sectors, innovation largely concerns adoption of knowledge and technology. Encouraging R&D activities through various government incentives can go a long way in enhancing the innovation climate in the State, and thereby attracting investors in technology intensive industries. This can also be achieved through greater industry-academia interaction.

[18]Indian National Innovation Survey, 2014

Exhibit 36: State Innovation Index

S. No	Categories	States	State Innovation Index Scores according to stage of Index	Ranks	Focus Areas
1	Innovation Frontrunners	Maharashtra	49.32	1	Focus on attracting more capital and identifying frontier areas for research and development
		Tamil Nadu	45.62	2	
		Karnataka	40.35	3	
		Gujarat	37.70	4	
2	Innovation Leaders	Delhi	40.55	1	Focus on leveraging talent and establishing more R&D centers in specific categories. Also need is to improve startup ecosystem
		Uttar Pradesh	37.91	2	
		Kerala	37.40	3	
		Andhra Pradesh	35.43	4	
		Punjab	33.94	5	
		West Bengal	33.01	6	
3	Potential Innovation Leaders	Uttarakhand	30.73	1	Focus on understanding unique attributes of each economy so as to enable it to become innovation leader
		Haryana	30.05	2	
		Rajasthan	28.18	3	
		Madhya Pradesh	26.98	4	
		Jharkhand	21.42	5	
4	Median Innovation Performers	Goa	39.67	1	Focus on drawing more capital and improve the science and technology education as well as trying to foster a culture of risk taking
		Himachal Pradesh	33.35	2	
		Odisha	26.26	3	
		Bihar	24.27	4	
		Chhattisgarh	23.69	5	
		Assam	23.49	6	
5	Potential Median Innovation Performers	Sikkim	33.04	1	Focus on capital while improving skills and maintaining a stable environment
		Tripura	27.15	2	
		Jammu & Kashmir	26.97	3	
		Meghalaya	22.86	4	
6	Innovation Underperformers	Mizoram	32.47	1	Focus on basic inputs of innovation like a stable environment and education at primary level
		Arunachal Pradesh	28.30	2	
		Manipur	27.40	3	
		Nagaland	22.75	4	

Source: Future of States Project, Institute for Competitiveness, India

CONCLUSION

The strong policy thrust, robust innovation climate and facilitative business environment has positioned the State as a major investment destination, but certain measures can help further strengthen its stature. This includes among others, reforms pertaining to enforcement of contracts in the State, policies in niche areas, and promotion of R&D activities.

5. STRATEGY FOR EXPORT PROMOTION

Discussions in the preceding chapters highlight the diverse industrial and export base in the State. The State Government policies formulated after the bifurcation of the State are imparting a renewed energy and momentum to export growth. However, there is currently no dedicated export strategy for the State.

An export strategy is one of the critical components for the competitiveness of any State. While trade and commerce is a subject of Union List, which empowers the Parliament of India to make legislations, the building blocks of such activities which includes agriculture and industries are prerogatives of the State Government. It is therefore essential that States create and integrate an export strategy as part of their economic agenda.

In order to take a holistic view, planning of a strategy for promotion of exports from Andhra Pradesh would entail strategizing across various levels. Strategies will be required for creating an enabling environment across sectors, as also for capacity building in sectors with high potential for exports. Select such strategies are discussed in the following section.

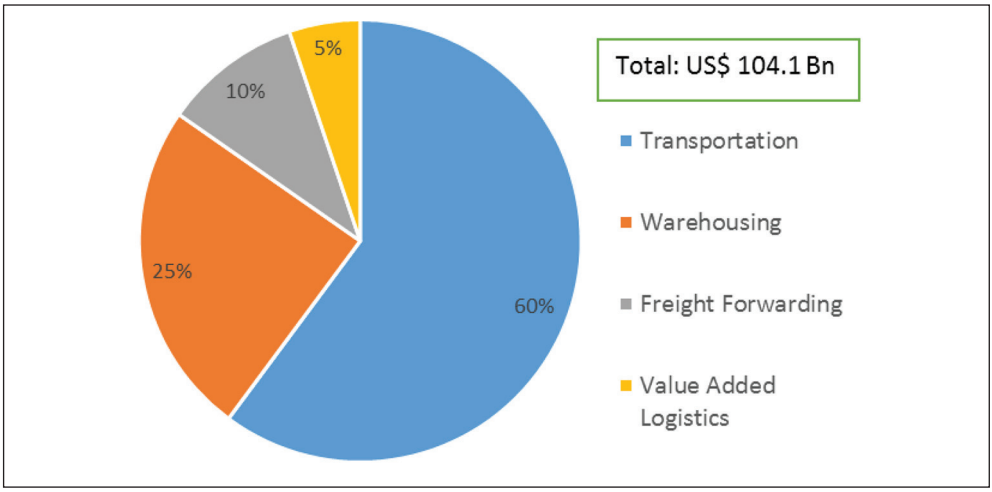
AUGMENT WAREHOUSING AND STORAGE CAPACITY

The logistics sector, comprising the transportation, storage and distribution components is a key driver of a state's competitiveness in the national and international markets. Transportation accounts for nearly 60 percent of the logistics market in India, while warehousing accounts for 25 percent (Exhibit 37).

Lack of adequate transportation, storage and distribution services is an issue for exporters across the country. Specifically, in the context of Andhra Pradesh, this is a major constraint as perishable products account for a significant share of the State's exports. Agro and food processing and marine products are key export sectors for the State, and the Government is also focusing on incentivizing pharmaceutical exports. These require adequate warehousing and cold storage infrastructure.

There is significant demand-supply mismatch in storage infrastructure. In 2015-16, foodgrain production in the State was estimated at 13.8 million MT. Horticulture production during

Exhibit 37: Segmentation of Indian Logistics Market (2014)



Source: Frost and Sullivan Research

the year was 18.8 million MT. As per industry norms, the storage facility should typically be 60 percent of the production amount[19]. According to this benchmark, the State should have at least 19 million tonnes of storage space. However, according to the Andhra Pradesh State Warehousing Corporation, the State currently has only about 1.1 million MT per annum of warehousing capacity.

The State also needs substantial expansion of cold storage infrastructure, which is critical for ensuring quality and maintaining shelf life of products. Currently, the State has 203 cold storage units, with capacity of 584 thousand MT (Table 43). There is need for more such units to meet the growing demand for safe handling of exports. The State can also develop a multi-modal cold-chain network which shall involve two or more modes of transport for facilitating transportation and storage of perishable products. Investment in development of last mile connectivity can also serve as an objective for this proposed multi-modal network.

Table 43: Cold Storage Infrastructure in Andhra Pradesh

Ownership	Number	Capacity (MT)
Cooperative	9	6269
Public	6	2519
Private	188	575453
Grand Total	203	584241

Source: APEDA, Exim Bank Research

[19]Ernst and Young

ESTABLISHMENT OF COASTAL ECONOMIC ZONES

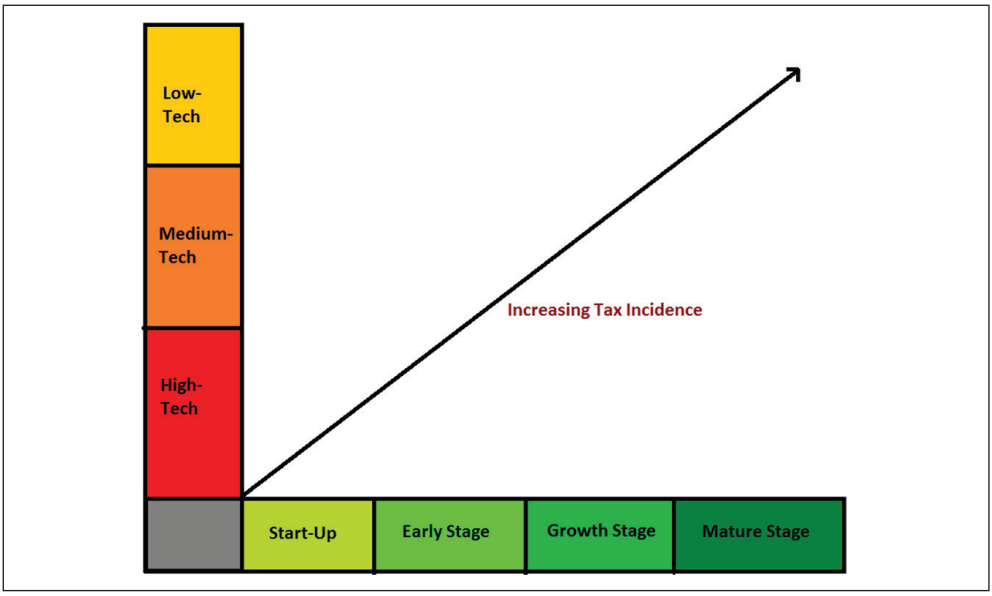
Fourteen Coastal Economic Zones (CEZs) have been identified along the coastline of the country in the National Perspective Plan of the Sagarmala Programme. These economic zones are expected to lower the cost of movement of goods and thereby improve export competitiveness. The CEZs shall comprise existing major and non-major ports, industrial units and requisite evacuation infrastructure. Two CEZs have been proposed in the State of Andhra Pradesh – one covering the ports of Kakinada, Vizag and Gangavaram; and the other around the port of Krishnapatnam.

Creation of adequate infrastructure in the CEZs needs to be complemented through incentives from the Government for enterprises located within these. It is noteworthy that while Shenzhen is the most famous SEZ development model in China, the characteristics of the region were equally important for its success and that exact model may not be replicable. Proximity to the well-developed financial hub of Hong Kong was a crucial factor in the growth story of Shenzhen. Moreover, the national and global economic scenario at the time of set-up of the Shenzhen SEZ was vastly different from the current landscape in India and globally.

For export prospects from the CEZs in Andhra Pradesh to remain positively resolute, key driving forces need to be identified. Some policy interventions which could be considered include the following:

- The policy of tax exemption with a sunset clause as in the case of SEZs may not necessarily promote productivity and innovation. Therefore, overall tax incidence on the units should depend on the type of enterprise, its stage of development, and the amount of exports. According to a report of the Comptroller and Auditor General of India,, only 9.6 percent of the SEZs in the country cater to multi-product manufacturing, and more than half are engaged in the IT/ITeS sector. To promote more units in high-technology manufacturing sector, the tax incidence on such units should be comparatively lower. Units at early stage of business development, adjudged by the number of years of operation and nature of industry, can also be provided greater tax incentives.
- Common testing and certification facilities for key exports should be provided within the CEZs. Enhanced quality standards adherence will be crucial to keep pace with international trends and expectations.

Exhibit 38: Taxation in Proposed CEZs



- Sales by SEZs to Domestic Tariff Area (DTA) are subject to tariffs. On the other hand, India has signed free trade agreements with several countries, and the tariff levied on goods imported from these countries are at concessional rates. To alleviate this constraint in case of CEZs, a certain percentage of sales to DTA should be permitted at concessional duties.

SETTING UP ANDHRA PRADESH EXPORT PROMOTION COUNCIL

Andhra Pradesh Export Promotion Council (APEPC) can be set up with support from the State Government, industry associations and exporters for providing information and guidance to exporters. It shall also serve as a link between the exporters and the Government, and help alleviate the constraints for export growth. The role of the agency shall include:

- Assisting exporters in understanding and leveraging the export policies and export assistance schemes of the State and Central Government;
- Building a statistical database for exports and imports from the State;
- Providing commercially useful information to exporters through market research and identification of key markets and products. This can be made available through the agency's website;
- Providing guidance to exporters on various matters such as standards, certification, export finance, insurance, etc.;
- Providing support for promotional activities such as external publicity,

participation in fairs and exhibitions, promotion of exclusive exhibitions and trade fairs of specific products;

- Coordinating the working of all institutions engaged in supporting international trade within the State;
- Identifying the need for export related training and capacity building, and liaison with DGFT and industry chambers for facilitating these

The proposed APEPC can set up Trade and Information Centres/ Kiosks at major industrial growth centres of the State for providing information to the exporters, conducting buyer-seller meet, etc. These centres can provide information pertaining to setting up export business, market and buyer identification, channels of distribution, processing of export order, export pricing and costing, risk mitigation methods, export finance, and labelling, packaging and marking of goods.

RAW MATERIAL BANKS

Availability and cost of raw material can be a major constraint for manufacturers. In the handloom sector, for example, high fluctuations in raw material prices can affect capacity utilization and value accruals. In the engineering sector as well, there are limited domestic capabilities for advanced metallurgy and development of special materials, which makes the availability of certain materials a constraint. The efficacy of raw material banks in alleviating supply side constraints to production has been well established. For example, a raw material bank for dyes and chemicals in the Tirupur Export Knitwear Cluster allows the manufacturers to procure dyes and chemicals at prices which are atleast 5 percent lower than the market prices (Box 1).

Box 1: Tirupur Export Knitwear Printers Association (TEKPA) Raw Material Bank

Tirupur cluster in the State of Tamil Nadu comprises around 5,000 textile units. The Tirupur Export Knitwear Printers Association (TEKPA) contributes to the growth of the textile industry in Tirupur through its multifarious activities. Recognizing the need for achieving technical specifications for exports, the TEKPA set up a raw material bank in 2013.

The objectives of the bank as outlined by TEKPA are:

- Make available high quality dyes and chemicals for the printing industry;
- Ensure no adulteration of dyes and chemicals used in the industry;
- Buy directly from reputed manufacturers, and take advantage of bulk buying;
- Ensure uninterrupted supply of dyes and chemicals.

Poor and often adulterated quality of dyes and chemicals was impacting exports from Tirupur as international buyers insisted on high quality of printing. With the establishment of the bank, the members of TEKPA could buy from reputed manufacturers and take advantage of bulk buying, thereby ensuring availability of quality products at low prices.

Since its operationalization in January 2013, when the store was started, over 250 members have purchased dyes and chemicals from the store. On account of establishment of the bank, members need not stock dyes and chemicals and incur inventory expenses. The prices of dyes and chemicals in the bank were also 5 percent lower than market prices at the time of establishment. Over time, the market prices have been stabilised as dealers and traders have been forced to match the store prices.

Source: Knowledge Centre, Reliance Commercial Finance

To ensure timely supply of quality raw materials to producers, raw material banks can be set up by the Department of Industries, Government of Andhra Pradesh in key areas such as textiles, engineering, agro and food products, etc. These raw material banks can supply the required raw materials to MSME units as and when required on producing a prescribed requisition form. A price fluctuation reserve can be maintained in these banks to ensure that smaller producers are protected against wide fluctuations in raw material prices. Several raw material banks already exist in areas such as handlooms, but there is a need for more such banks in areas such as handicraft, agro and food products, etc. In this regard, APEPC can make recommendations to the State Government based on its assessment of the supply related constraints for exports oriented production in the State.

BRANDING OF GEOGRAPHICAL INDICATIONS PRODUCTS

Several handicrafts, handloom and agricultural products from Andhra Pradesh have been conferred Geographical Indications (GI) status (Table 44). The reference to geographical origin along with the use of traditional practices and processing methods, provides substantial marketing potential. GIs are considered important tools for marketing strategies, and function as product differentiators.

To reap the benefits of GI status, it is important for the GI brand to be recognised as a reliable and preferred brand in the market with a distinguished positioning. Products such as Darjeeling Tea have been

Table 44: Geographical Indications in Andhra Pradesh

Product	Category
Pochampalli Ikat	Handicraft
Srikalahasthi Kalamkari	Handicraft
Kondapalli Bommallu	Handicraft
Machilipatnam Kalamkari	Handicraft
Budiiti Bell & Brass Craft	Handicraft
Andhra Pradesh Leather Puppetry	Handicraft
Uppada Jamdani Sarees	Handicraft
Tirupathi Laddu	Foodstuff
Guntur Sannam Chilli	Agricultural
Venkatagiri Sarees	Handicraft
Bobbile Veena	Handicraft
Mangalagiri Sarees and Fabrics	Handicraft
Dharmavaram Handloom Pattu Sarees and Paavadas	Textile
Banaganapalle Mango	Agricultural

Source: Geographical Indications Registry

able to gain substantial market share on account of this brand building. In order to attain similar levels of success, key value proposition needs to be defined for the products having GI status. The logo and name of the GI brand needs to be developed and marketed, and mechanism needs to be devised for ensuring that all the products marketed under the GI brand meet the minimum specified standards. Initiatives are also needed for identifying more products from the State which can be accorded with GI status. In this regard, a brand equity fund can be setup by the State Government under the aegis of the Department of Industries. This will be aimed at building globally competitive brands for products originating from the State. The fund can also assist in marketing of these branded products in the international arena. Export related brochures, interactive CDs, etc. can be created for popularizing the products from the State in international markets.

EXPORT AWARDS

To encourage exports from the State, Export Awards can be introduced for recognizing the efforts of exporters across the key sectors—agricultural and allied products, marine products, chemical and allied products, engineering goods, textile and garments, drugs and pharmaceuticals, and services. Separate awards can also be instituted for the MSME industries in the State. A selection committee comprising officials from key Government agencies and eminent industrialists can evaluate the applications taking into consideration the value of exports, ratio of exports to sales, level of value addition, adoption of best practices, product and process innovation, R&D activity, etc.

SKILL DEVELOPMENT AND CAPACITY BUILDING

Exporters need to have in-depth knowledge of the latest global developments pertaining to international trade viz., export finance,

insurance, packaging / eco-labelling, quality, etc. They should also acquaint themselves with the rules and procedures of importing countries. Hence, there is a need to conduct Workshops / Seminars / Conferences regularly on different aspects of international trade and across different sectors in the State. Industry associations and agencies, along with the proposed Andhra Pradesh Export Promotion Council can help in organizing these programmes.

The Government of Andhra Pradesh intends to set up Sector Skill Councils at the State level on the lines of National Sector Skill Council. These can also be leveraged for enhancing the existing capacity of exporters and creating awareness about important procedural aspects.

FINANCIAL SUPPORT FOR MANAGING TECHNICAL BARRIERS TO TRADE / STANDARDS

Technical Barriers to Trade (TBT) are measures relating to technical regulations and standards, and procedures for assessment of conformity. These are increasingly emerging as a challenge for the exporters. TBTs can be in the form of certifications, packaging and labelling requirements, re-test of shipments for conformity, etc. Analysis carried out earlier in the Study indicated that exports from Andhra Pradesh have largely been geared towards developing countries, and its penetration in the developed countries, which are the largest importers for several of the identified products, has been fairly limited. The usage of Non-Tariff Barriers (NTBs) in developed countries, especially TBTs discourage exporters from entering these markets. A list of generic and sector- specific NTBs is given at Annexure 2.

For Andhra Pradesh, it is even more important given that it is one of the major producers and exporters of agriculture and allied products, which remains one of the most protected sectors for majority of the trading nations. Standards in the sector are stringent, and compliance with these requires significant investment. Many developing countries, including India face the twin challenges of inadequate research and development facilities as well as good quality lab network services to improve and upgrade product qualities as per requirements of Good Agriculture Practices (GAP), Hazard Analysis and Critical Control Point (HACCP), etc. The investment requirements for HACCP plants are large as most of the capital goods related to the plant need to be imported from the developed countries. The installation cost of HACCP plants varies from Rs 10 million to Rs 25 million. Further, on an average, an export processing firm is estimated to

spend about Rs 2 million per year to maintain a HACCP plant[20].

There are several standards and certifications in other sectors as well. For example, the "Communauté Européenne (CE)" marking is essential for exports to Europe of products such as medical devices, simple pressure vessels, electrical and electronic products, building materials, gas-fuel-fired equipment, toys, etc. Equipment used in potentially explosive atmospheres within the EU are also required to comply with the ATEX directive. Similarly, China requires certain imported products to have Chinese Compulsory Certification. These include several categories of auto-components, electrical equipments, electronics, etc. In Russia as well, industrial products containing pneumatic products are required to conform to the standards prescribed by GOST-R. In addition, a certificate of conformity is required at customs clearance.

In order to encourage exporters, the State can share a portion of the expenses incurred for such compulsory certifications. Depending upon the turnover of the exporting unit, the State can bear 50-100 percent of the certification / compliance cost.

LEVERAGING TECHNOLOGY ACQUISITION SCHEMES OF GOI

The Government of India has launched several Schemes for assisting Indian manufacturers to acquire and evolve cutting-edge technologies to catalyse growth and compete in global market. One such initiative is the Technology Acquisition Fund Programme (TAFP) which is an industry driven initiative aimed towards assimilation of technology in a short span of time. In view of the objectives laid out in the 12th Five Year Plan, TAFP mandates to provide funding to offset the higher cost of the best technology available globally. The TAFP provides financial assistance to Indian Capital Goods sector to facilitate the acquisition of strategic and relevant technologies and also development of technologies through contract route, in-house route or through joint route of contract and in-house.

Similarly, the Technology Acquisition and Development Fund (TADF) aims at facilitating acquisition of clean and green technologies by MSMEs across sectors, and bridge the technological gap at an affordable cost. These can be leveraged by exporters from Andhra Pradesh to boost high-technology exports.

In this context, the State government can provide support in submission of applications under the Schemes. For example, under TAFP, applicants need to carry out a mandatory detailed assessment study by a third party specialized and accredited agency on

[20]Export of Horticultural Products from India: Economic Impact of Cost of Compliance for Food Safety Measures; Association of Asia Scholars

the proposed technology. This is done to evaluate the following aspects in the context of improving the existing business proposition —

- Technical uniqueness of the proposed technology in the context of area of application vis-à-vis other competitive technologies;
- Commercial viability and appropriate justification for financial valuation of the "Proposed Technology";
- Requisite level of details on Intellectual Property Rights in relation to context of improving the existing business proposition.

Prior to the opening of the Request for Proposal (RFP) cycle of the schemes, the State Government can invite and review applications from export-oriented units / clusters / consortium in the State, and provide necessary advisory and financial support in preparation of the application. As these programs meet only a fixed percentage of the cost of technology acquisition (25 percent in case of TAFP subject to ceiling of Rs. 10 Crore), the State Government can provide additional financial support on a case-to-case basis.

SUPPORT FROM EXIM BANK

Several flagship programmes of Exim Bank, such as Lines of Credit, and Buyer's Credit under NEIA (Box 2) can help propel medium and long term exports from the State, and create export opportunities for Indian companies.

Box 2: Exim Bank's Flagship Financing Programmes

Loans to Export Oriented Units: The Bank offers a number of financing programmes for Export Oriented Units, importers and for companies making overseas investments. The financing programmes cater to the term loan requirements of Indian exporters for financing their new project, expansion, modernization, purchase of equipment, R&D, overseas investments and also the working capital requirements.

Lines of Credit: The Government of India, in 2003-04, formulated the Indian Development and Economic Assistance Scheme [IDEAS – administered by the Department of Economic Affairs, Ministry of Finance] with the objective of sharing India's development experience through capacity building and skills transfer, trade, and infrastructure development, by extending concessional Lines of Credit (LOCs) routed through Exim Bank, to developing partner countries, towards creating socio-economic benefits in the partner country. These LOCs facilitate import of project-related equipment and services from India by such partner countries on deferred credit terms.

Project Exports: Exim Bank plays a pivotal role in promoting and financing Indian companies in execution of projects. Towards this end, the Bank extends funded and non-funded facilities for overseas industrial turnkey projects, civil construction contracts, supplies as well as technical and consultancy service contracts. Indian companies have implemented numerous projects, spanning various sectors, with support from Exim Bank. These projects, in turn, facilitate and support infrastructure development in host countries, thereby contributing to the overall development process in the region.

Buyer's Credit under the NEIA: Exim Bank has also been playing a pivotal role in promoting and financing Indian companies in execution of projects overseas. Towards this end, the Bank extends funded and non-funded facilities for overseas industrial turnkey projects, civil construction contracts, supplies as well as technical and consultancy service contracts. The Bank's strong emphasis on increasing project exports from India has been enhanced with the introduction of the Buyer's Credit under the GOI's National Export Insurance Account (BC-NEIA) program. BC-NEIA is a unique financing mechanism that provides a safe mode of non-recourse financing option to Indian exporters and serves as an effective market entry tool to traditional as well as new markets in developing countries, which need deferred credit on medium or long term basis. At present, a positive list of 46 countries has been identified for which Indian exporters can avail of Buyer's Credit under the NEIA. The list could be suitably expanded / modified on receipt of credit requests for projects from other countries, as has been done in the past.

Lines of Credit

Benefits from the LOC program can accrue to the exporters from Andhra Pradesh in several key areas. For example, in the cement sector, Exim Bank has several operative LOCs in the countries of Djibouti, DR Congo, Central African Republic, and the Republic of Congo. Exporters from the State can tap such opportunities. In fact, Andhra Pradesh is best placed to take advantage of such opportunities as the State is among the top exporters of cement from India.

IT and ITeS is also a focus sector for the State, and through the LOC program, mutually beneficial arrangements can be made by exporters with other

countries which require IT training. Currently, Exim Bank has an operative LOC in Senegal for IT training.

Under the LOC program, several countries also seek machinery imports, which can be supplied by the exporters from Andhra Pradesh. Project exports from the State can also be enhanced through the LOC program. Project exports are vital conduits for exporting high-value machinery, labour, expertise, and technology, especially since global merchandise exports remained below 3 percent for the fourth consecutive year in 2016.

Overseas Investment Finance (OIF)

While the State has substantial technology-intensive exports, it will need to move up the ladder in terms of technology. Since investment in R&D has high gestation period, the OIF programme of the Bank can help companies get access to high technology by way of inorganic growth through the mergers and acquisition route overseas. Exporters in Andhra Pradesh can also achieve vertical integration through their overseas investments which will improve their efficiency and margins.

Buyer's Credit under the NEIA

Large scale export infrastructure projects in the energy, resources and port sectors continue to look at the Export Credit Agencies to supplement and facilitate finance. Exports of projects and services can be broadly categorized into (i) civil construction projects, (ii) turnkey projects, (iii) consultancy services, and (iv) supplies, primarily by way of capital goods and industrial manufactures.

As noted earlier, there is substantial potential for capital goods exports from the State. However, the scope of these exports is fairly limited as developing countries are the major markets for India's project exports, and these countries demand medium-to long-term credits. With the BC-NEIA product, project exporters from the State can venture into new markets and help diversify the exports.

MARKET DEVELOPMENT ASSISTANCE

Marketing Development Assistance (MDA) Scheme of the Government of India assists exporters for export promotion activities abroad. Entrepreneurs get funding for participating in trade delegations/ buyer seller meets/ fairs/ exhibitions. These initiatives have been proven to assist exporters for export promotion activities. A State-level MDA scheme can also be put in place for further encouraging participation of Indian exporters. The implementation of the scheme needs to be made segment

specific, with focus on exporters in the high value added and technology intensive sectors.

CAPACITY BUILDING OF INDUSTRIAL CLUSTERS

Industrial clusters have been proven to have several advantages in promoting the growth of a particular sector or industry. It is recognized that enterprises can achieve high levels of competitiveness if they work in a cluster environment ensuring complementarities, common facilities, collective activities including collective sourcing and marketing.

The State of Andhra Pradesh has several industrial clusters spread across an array of sectors. The development and upgrading of clusters will be an important agenda for the State Government. As an essential first step, the State needs to develop a mechanism for assessment of existing clusters in the State. The assessment can cover aspects pertaining to infrastructure bottlenecks, technological upgradation, access to skilled human resource, environmental sustainability, etc. Upon assessment of the clusters, relevant capacity building activities can be undertaken by the Government. The elements of capacity building include construction of physical infrastructure, building institutions, development of human resources, etc.

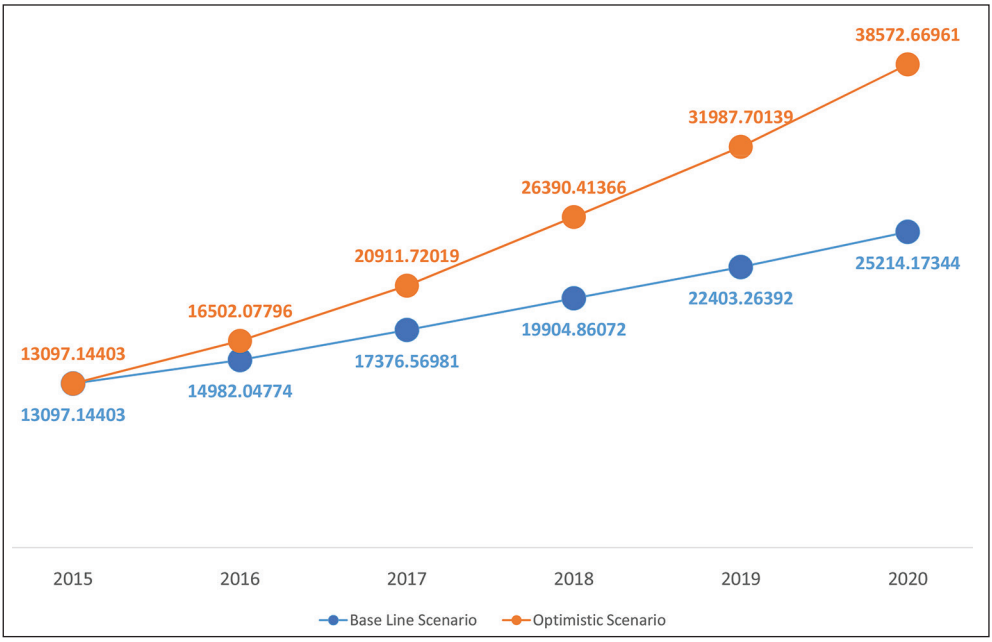
EXPORT PROMOTION PERFORMANCE MEASUREMENT SYSTEM

A quantitative-based performance system needs to be developed for measuring the effectiveness of the strategies for export promotion. The parameters for assessment may include extent of utilization of common testing and certification facilities, number of firms seeking assistance from the proposed APEPC, training and capacity building activities undertaken by APEPC, number of branded products assisted/marketed through the brand equity fund, support provided by the State for compulsory certifications, etc. This performance can be matched with actual trade statistics for the State, and help in quantification of measurable goals for the next fiscal and devising the action plan.

OUTLOOK

India expects to increase its share in world exports from 2 percent to 3.5 percent by 2020. Contribution from various States would form the bedrock of achieving this target. Based on the Country's target, it is projected that Andhra Pradesh must achieve the target of US$ 25 billion of exports by 2020, under a baseline scenario. For the share of Andhra Pradesh to concomitantly increase in India’s exports, exports need to further increase to US$ 39 billion by 2020.

Exhibit 39: Targets for Exports from the State (Value in US$ Mn)



Source: WTO Statistics, Ministry of Commerce, Exim Bank Research

Under this optimistic scenario, share of the State in national exports shall increase from the current 5 percent to 7.5 percent by 2020 (Exhibit 39).

To achieve the aforementioned targets, it will be essential for the State to focus on enhancing trade competitiveness, promoting innovation, bolstering availability of export finance, and strengthening the institutional capacity for exports, among others. The export strategies outlined in the current Study can help devise the roadmap and action plan for achieving the desired results.

Annexure 1

Classification of Products

Category	HS Code	HS Description
Animal and Animal Products	1	Live animals
	2	Meat and edible meat offal
	3	Fish and crustaceans, molluscs and other aquatic invertebrates
	4	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified
	5	Products of animal origin, not elsewhere specified or included
Animal Or Vegetable Fats & Oils & Their Cleavage Products	15	Animal or vegetable fats and oils and their cleavage products; prepared edible fats
Chemical and Allied Products	28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals
	29	Organic chemicals
	31	Fertilisers
	32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring
	33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations
	34	Soap, organic surface-active agents, washing preparations, lubricating preparations
	35	Albuminoidal substances; modified starches; glues; enzymes
	36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations
	37	Photographic or cinematographic goods
	38	Miscellaneous chemical products
Construction Material	68	Articles of stone, plaster, cement, asbestos, mica or similar materials
	69	Ceramic products
Gems and Jewellery	71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad
Leather and Leather Products	42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers
Machinery and Mechanical Appliance; Electrical and Electronics	84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof
	85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers

Metals and Metal Products	72	Iron and steel
	73	Articles of iron or steel
	74	Copper and articles thereof
	75	Nickel and articles thereof
	76	Aluminium and articles thereof
	78	Lead and articles thereof
	79	Zinc and articles thereof
	80	Tin and articles thereof
	81	Other base metals; cermets; articles thereof
	82	Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal
	83	Miscellaneous articles of base metal
Mineral Products	25	Salt; sulphur; earths and stone; plastering materials, lime and cement
	26	Ores, slag and ash
	27	Mineral fuels, mineral oils and products of their distillation; bituminous substances
Optical, Measuring, Medical & Similar Instruments & Parts	90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments
Paper and Paper Products	48	Paper and paperboard; articles of paper pulp, of paper or of paperboard
	49	Printed books, newspapers, pictures and other products of the printing industry; manuscripts
Pharmaceutical Products	30	Pharmaceutical products
Plastics And Articles Thereof	39	Plastics and articles thereof
Prepared Foodstuffs	16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates
	17	Sugars and sugar confectionery
	18	Cocoa and cocoa preparations
	19	Preparations of cereals, flour, starch or milk; pastrycooks' products

	20	Preparations of vegetables, fruit, nuts or other parts of plants
	21	Miscellaneous edible preparations
	22	Beverages, spirits and vinegar
	23	Residues and waste from the food industries; prepared animal fodder
	24	Tobacco and manufactured tobacco substitutes
Rubber And Articles Thereof	40	Rubber and articles thereof
Textiles and Garments	50	Silk
	51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric
	52	Cotton
	53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn
	54	Man-made filaments; strip and the like of man-made textile materials
	55	Man-made staple fibres
	56	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof
	57	Carpets and other textile floor coverings
	58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery
	59	Impregnated, coated, covered or laminated textile fabrics
	60	Knitted or crocheted fabrics
	61	Articles of apparel and clothing accessories, knitted or crocheted
	62	Articles of apparel and clothing accessories, not knitted or crocheted
	63	Other made-up textile articles; sets; worn clothing and worn textile articles
Vegetable Products	6	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage
	7	Edible vegetables and certain roots and tubers
	8	Edible fruit and nuts; peel of citrus fruit or melons
	9	Coffee, tea, maté and spices
	10	Cereals

	11	Products of the milling industry; malt; starches; inulin; wheat gluten
	12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal
	13	Lac; gums, resins and other vegetable saps and extracts
	14	Vegetable plaiting materials; vegetable products not elsewhere specified or included
Vehicles, Aircraft, Vessels and Associated Transport Equipment	86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures
	87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof
	88	Aircraft, spacecraft, and parts thereof
	89	Ships, boats and floating structures

Source: DGFT, Exim Bank Research

Annexure 2

Generic and Sector-Specific NTBs

Type of Non-Tariff Barrier	Imposing Country	Segment	Example
Technical Barriers to Trade	Japan	All segments	Correct packing, marking, and labelling are critical for customs clearance in Japan. All imported products and shipping documents are required to show metric weights and measures.
Procedural Complications and Documentation	The USA	All segments	Most of the States of America have enacted their own administrative procedures which govern the adoption of technical regulations and conformity, complicating the procedures while exporting to the USA
Procedural Complications and Documentation	EU	All segments	New GSP rule requires exporters to self-certify the origin of content while exporting to EU. Any error can lead to disqualification of benefits
IPR requirements	EU	All segments	Strict IP regime would impact certain high-technology items, where the State is aspiring to build export base, as technology transfer would be adversely impacted
IPR requirements	Japan	All segments	Japan maintains a strong intellectual property rights (IPR) regime. Companies doing business in Japan are encouraged to be clear about all rights and obligations with respect to IPR in any trading or licensing agreements.
IPR requirements	The USA	All segments	The USA protects a varied list of products under its IPR regime ranging from industrial designs, circuit designs, trademarks etc. This results in import user fees and excessive invoicing requirements on importers, which add to costs in a similar way to tariffs - e.g.: Merchandise Processing Fee (MPF)
Technical Barriers to Trade	EU	Textile and Apparels	E.U. recently came out with revised set of standards like REACH (Registration, Evaluation, Authorisation and Restriction of Chemical Substances) for textile and apparel sector
Technical Barriers to Trade	EU	Textile and Apparels	The textile products being imported into EU have to meet their labelling requirements containing information about the product – size and dimensions, fibres used, intended use of clothing, information about the producer and the importer

Technical Barriers to Trade	Japan	Textile and Apparels	The Ministry of Economy and International Trade and Industry requires specification of type of fabrics, washing instructions and details of manufacturer/ supplier
Technical Barriers to Trade	Japan	Textile and Apparels	The Japan Textile Federation has Voluntary Standards on Non-use of Harmful Substances for Textiles and Clothing regarding Azo Dyes
Technical Barriers to Trade	The USA	Textile and Apparels	The USA has labelling requirement for 95 percent of the apparel tariff lines, thus preventing import of uncertified, sub-standard and non-copyright products
Government subsidies and Support	The USA	Textile and Apparels	Commodity Credit Corporation of the U.S. Department of Agriculture provides subsidies to the U.S. producers of textiles and apparel by providing a monetary amount equivalent to what a person would have saved if the tariff-rate quotas on wool were still in effect
Government subsidies and Support	The USA	Textile and Apparels	The USA also provides subsidies to producers and users of cotton involved in promotion of use of pima cotton in textiles and apparels; yarn spinners of pima cotton; and manufacturers who cut and sew cotton shirts who certify that they used imported cotton fabric
Technical Barriers to Trade	The USA	Gems and Jewellery	Conform to the provisions of the Labelling of Hazardous Art Materials Act
Technical Barriers to Trade	The USA	Agro and Food	The Food Safety Modernisation Act (FSMA) makes it mandatory for importers to perform "supplier verification process" which requires FDA inspection of suppliers.
Technical Barriers to Trade	The USA	Agro and Food	Meet import requirements related to grade, size, quality and maturity
Import Licensing, quotas restrictions and prohibitions	The USA	Agro and Food	Certain plant and products, chemicals face import licensing in the US
Technical Barriers to Trade	EU	Chemical	Different Minimum Residue Levels required by the member countries for pesticides, drugs and other contaminants

Import Licensing, quotas restrictions and prohibitions	The USA	Chemical	Certain plant and products, chemicals face import licensing in the US
Procedural Complications and Documentation	The USA	Chemical	For pesticides, regulations require importers to submit to U.S. Customs and Border Protection an Environmental Protection Agency (EPA) Notice of Arrival that the EPA has reviewed and approved before the importation arrives in the United States
Technical Barriers to Trade	China	Auto	Imported parts have to undergo more than one type of approval making the process cumbersome. Also, all auto components being imported have to be retested in Chinese laboratory for Chinese Compulsory Certification (CCC). Interior parts (dashboards, console, parts of engine compartment), safety glasses and spare parts and accessories for motor vehicles are required to be marked with CCC labels
Technical Barriers to Trade	South Korea	Auto	Korea imposed burdensome conditions like vehicle width for certification, registration and marking requirements
Technical Barriers to Trade	The USA	Auto	Auto parts using specialty metals cannot be imported directly to US since India is not a qualifying country from where specialty metal can be melted/ made into a product
Import Licensing, quotas restrictions and prohibitions	Malaysia	Auto	A vehicle type-approval process has prevented the import and sale of "sub-standard" vehicles, parts, and components since January 2009. In 2013, Malaysia imposed Import licensing on some parts such as body for cabs and motor vehicles
Import Licensing, quotas restrictions and prohibitions	Brazil	Auto	Brazil introduced non automatic import licenses on automobiles and auto parts.
Import Licensing, quotas restrictions and prohibitions	Thailand	Auto	Import of used car bodies and motorcycle frames are prohibited and import licensing is employed for used diesel engines with specific capacity requirements
Discriminatory taxes and Additional Cost	Japan	Auto	Discriminatory system of taxes while importing automobile and auto parts exists in Japan

Discriminatory taxes and Additional Cost	EU	Auto	Few auto/ auto component items have been removed from preference list of GSP (higher rate since 2012) for imports from India to have better leverage while negotiating EU - India FTA)
Discriminatory taxes and Additional Cost	Turkey	Auto	A special consumption tax of 37 % to 130 % is levied on all motor vehicles based on engine size
Discriminatory taxes and Additional Cost	South Korea	Auto	High import duties and taxes on imported cars, high prices for replacement parts in foreign cars, and higher after-sales service fees for foreign manufactured cars
Government subsidies and Support	China	Auto	China provides various forms of export-contingent Subsidies and Government Support through a program for establishing "export bases" in the automobile and automobile-parts industries.
Government subsidies and Support	Brazil	Auto	Brazil Development Bank (BNDES) announced loans / grants to auto component manufacturers to help develop technology, modernize equipment and infrastructure
Local Content Requirements	Thailand	Auto	The Eco-Car programme requires auto manufacturers to have minimum local content requirements in purchase of capital goods to get advantage of tax exemptions
Local Content Requirements	Indonesia	Auto	Under local content requirements for automotive industry, certain manufacturing activities for some auto parts have to be conducted in Indonesia
Technology Transfer	China	Auto	Chinese government rules also pressurize US automakers to transfer the latest electric car technology in exchange of green-energy Subsidies and Government Support in China

Source: IMaCS Analysis, Exim Bank Research

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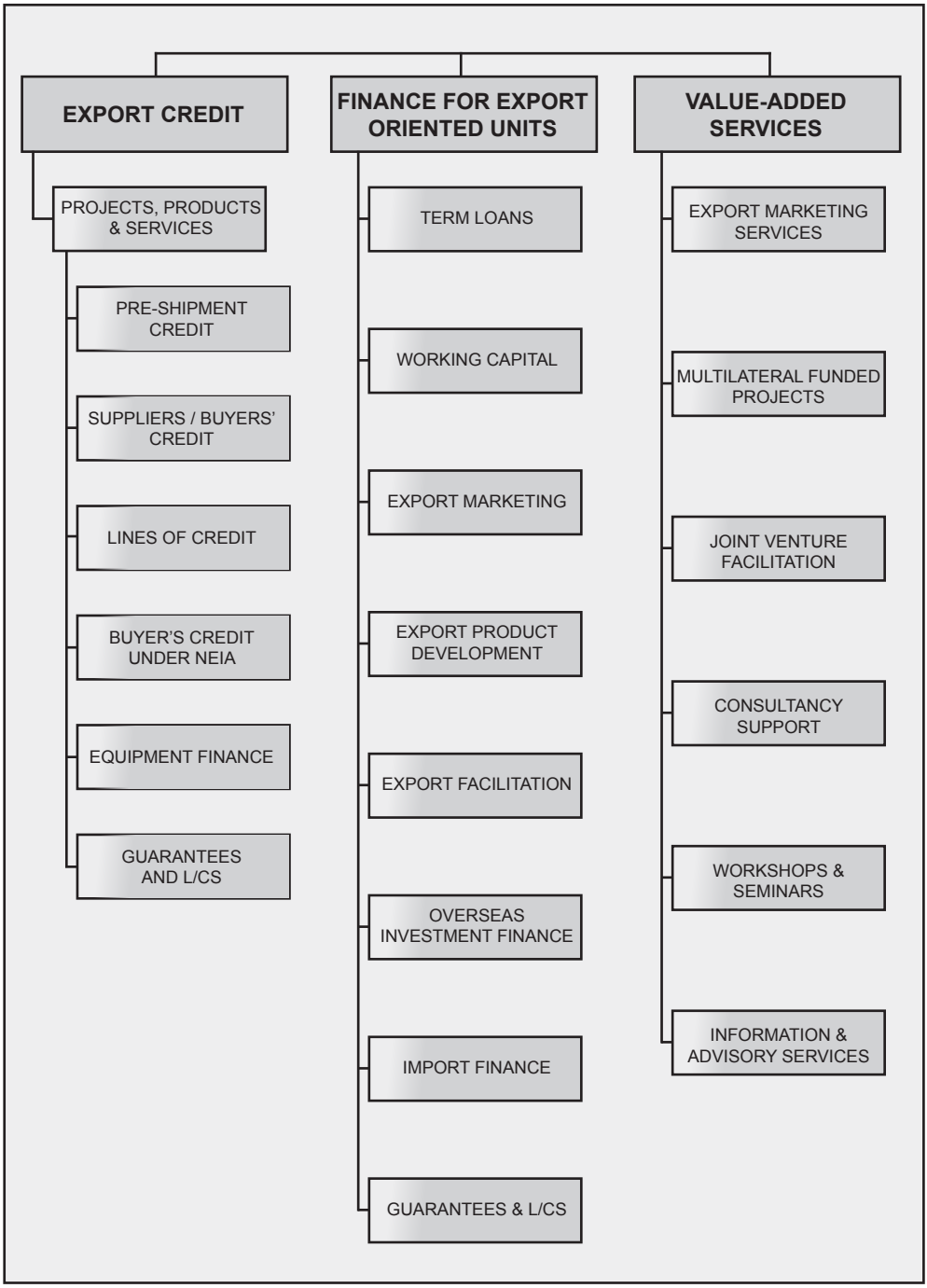

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Chandigarh 160 031
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Overseas Towers,
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Chennai 600 002
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Golden Edifice, 2nd Floor, 6-3-639/640,
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Vanijya Bhawan, 4th Floor,
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