

## India Opportunities for Agricultural Mechanization

### Overview

The agricultural industry has always been the backbone of India’s sustained growth. Over the past two decades there has been a tremendous move towards mechanization of the agricultural industry in India driven by increase in power availability on the Indian farms from 30% to 70%. As the population of India continues to grow, the demand for produce grows as well. Hence, there is a greater need for multiple cropping on the farms and this in turn requires efficient and high-capacity machines.

Mechanization of the Agricultural industry in India is still in a stage of infancy. Increased Government subsidies and the migration of the labor resources to fields like construction have created an enormous market for farm machinery and equipment. The farmers still largely rely on primitive tools, cattle and manual labor to work around the fields, owing primarily to the lack of knowledge and the unavailability of advanced tools and machinery.

### Basic Facts

<b>Total Geographic Area</b>	328 Million Hectare (MHa)
<b>Gross Cropped Area</b>	190 MHa
<b>Net Cropped Area</b>	142 MHa
<b>Cultivable Land to Geographic Area</b>	57%
<b>Contribution of Agriculture</b>	16% to GDP 10.23% to Total Exports 52.1% to Total Employment
<b>Total Irrigational Potential (Till March 2009)</b>	140 MHa
<b>Gross Irrigated Area</b>	80 MHa
<b>Ground Water Resources for Irrigation</b>	40MHa

*Source: Italian Trade Commission*

### Agriculture and Gross Domestic Product

	2008-09	2009-10
<b>GDP Factor (\$ Bn)</b>	923	992
<b>Growth Rate in GDP (%)</b>	6.7	7.4
<b>Agricultural Composition of GDP (%)</b>	17.1	16
<b>Value of Agricultural GDP (\$ Bn)</b>	158	159

*Source: Italian Trade Commission*

### Upcoming Opportunities

Farming has been the primary occupation of the Indian population for the longest time and will continue to be the main occupation of the majority of the Indian population for some time to come. The Government of India, owing to the decrease in Agricultural Growth rate over the past few years (1.6% in

2008-09 to 0.2% in 2009-10), has set up plenty of schemes (National Food Security Mission, Rashtriya Krishi Vikas Yojna, ISOPOM etc) in an effort to increase the growth rate of Agriculture. Subsidies of up to 70-90% are being offered on the price of equipment such as Irrigation Equipment, Power Tillers, Rice Tran planters, Rotavetors, Zero Till Seed Drills etc. The investment from private investors has also been steadily increasing over the past three years (\$ 15.87 Mn in 2006-07 to \$ 25.36 Mn in 2008-09) and is expected to further increase in the future.

## Market Size for Mechanization of Agriculture

<b>Estimated Market Size for Agricultural Equipment (in \$ Mn)</b>	185 - 225
<b>Estimated total Export Market for Agricultural Equipment (in \$ Mn)</b>	9 - 14
<b>Estimated total Import Market for Agricultural Equipment (in \$ Mn)</b>	7 - 9
<b>Estimated total Domestic Market for Agricultural Equipment (in \$ Mn)</b>	200 – 250

Source: Italian Trade Commission

## Total Power Consumption in Agriculture

	<b>2001-02</b>	<b>2005-06</b>	<b>2019-20</b>
<b>Total Power Consumption (kW/Hectare)</b>	1.29	1.45	2
<b>% Change</b>	61.3	12.4	37.9

## Equipment Market in India

Equipment	Annual Market Size	Price/Unit	Growth Rate	Government Subsidy
<b>Combine Harvester</b>	3000 – 4000 units	\$ 40,000 - \$ 65,000	40%	25% or \$ 450, whichever is less
<b>Thresher</b>	20,000 units	\$ 1,600 - \$ 2,700	10%	50% or \$ 50, whichever is less
<b>Rotavetor</b>	50,000 units	\$ 1,700 - \$ 2,700	50%	50% or \$ 1,300, whichever is less
<b>Zero Till Seed Drill</b>	15,000 units	\$ 600 - \$ 800	5%	50% or \$ 650, whichever is less
<b>Power Tiller</b>	60,000 – 70,000 units	\$ 3,000 - \$ 3,150	10%	45% or \$ 1,000, whichever is less
<b>Laser Land Leveler</b>	2000 units	\$ 8,000	Increasing	
<b>Rice Transplanted</b>	600 – 800 units	\$ 3,700 - \$ 5,000	Increasing	25% or \$ 900, whichever is less
<b>Power/Manual Spray</b>	\$ 100 Mn	Power Spray: \$ 50 - 500 Manual Spray: \$ 10 - 30	10%	50% or \$ 50, whichever is less



<b>Power Weeder</b>	25,000 units	\$ 650 - \$ 800	Increasing	25% or \$ 450, whichever is less
<b>Drip Irrigation Equipment</b>	\$ 275 Mn	\$ 670 - \$ 1,700 per Hectare	20 - 25%	50% or \$ 210, whichever is less
<b>Sprinkler Irrigation System</b>	\$ 275 Mn	\$ 550 per Hectare	Increasing	50% to \$ 350, whichever is less

Source: Italian Trade Commission

## Foreign Players in India

The current market for farming equipment is dominated by small scale local and Chinese manufacturers. However, due to the inferior quality of products and the lack of availability of spare parts for Chinese products, the market has been open to other players as well. Farm Equipment manufacturers and exporters from around the globe have already started/in the process of starting operations in India.

<b>Company</b>	<b>Country</b>	<b>Equipment</b>
<b>Chendugu Good Good International Trading Co.</b>	China	Rice Tran planters, Tractors, Threshers
<b>Shanghai Techway Industrial Co. Ltd.</b>	China	Power Sprayers, Tillers
<b>Adorno Technology</b>	United States of America	Various Farming Equipment
<b>Lazar Equipment Ltd.</b>	Canada	Various Farm Machinery
<b>Irisfilm Corp.</b>	Taiwan	Sprayers
<b>T.C.P Industries</b>	United States of America	Various Farming Equipment
<b>Basman Agricultural Machinery Co.</b>	Turkey	Rollers, Sprayers
<b>La Envidia</b>	Ecuador	Various Farming Equipment
<b>Super Products Co. Ltd.</b>	Thailand	Sprinklers, Irrigation Systems
<b>Farmway Ltd.</b>	United Kingdom	Various Farming Equipment
<b>Shouguang Axion Machinery Co. Ltd.</b>	China	Harvesting Blades
<b>Comercial Agricola Mineira Ltd.</b>	Brazil	Cultivators, Rollers
<b>Hawe Heinrich Wester</b>	Germany	Roller, Seeders, Cutters
<b>Bosta</b>	United Kingdom	Irrigation Equipment
<b>Giltrap Engineering Ltd.</b>	New Zealand	Wagons, Slurry Spreaders
<b>Societe Chirag</b>	Mexico	Fertilizer Applicators, Furrowers
<b>Gregoire Besson</b>	France	Ploughs, Soil Preparation Equipment
<b>Gyral Implements Pvt. Ltd.</b>	Australia	Seeders, Tillers, Drills
<b>Reynolds International Pvt. Ltd.</b>	United States of America	Agricultural Machinery and Equipment
<b>BMS Europe</b>	United Kingdom	Soil Samplers
<b>John Deere</b>	United States of America	Tractors,

## ABOUT US

IMaCS Virtus Global Partners, Inc. ("IVG Partners") is a New York based advisory firm that offers services to North American companies seeking India related growth and investment opportunities. Our mission is to enable our clients to transform their business by adding India as a key part of their global footprint. Our clients benefit from our local presence, strong relationships, knowledge of local business practice, experience, and financial expertise. The firm is part of ICRA Management Consulting Services Limited, which is a fully-owned subsidiary of ICRA Limited, one of India's leading credit rating agencies.

We are headquartered in New York with eight offices in India.

## OUR PROFESSIONALS

We have an established track record of over 15 years and 1,000 engagements providing advisory services to a diversified client base across energy, manufacturing, infrastructure, and retail. Our team possesses a deep understanding of the business environment, both in the US and India and is well connected with companies, financial institutions and governmental agencies in both markets. We also work with multilateral agencies such as USAID, World Bank and ADB as well as regulators.

## OUR SERVICES

### India Entry Advisory

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- Market, Demand and Competition Analysis
- Customer and Partner Meetings
- Sales and Sourcing Strategy
- India Strategy & Investment Roadmap

### M&A Advisory

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- Target Identification
- Synergy Valuation
- Price Negotiations
- Deal Structuring

### Risk Management

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- Solutions to Address Payment and Other Risks
- Credit Risk Assessment
- Financial Assessment of Customers & Partners
- Local Regulatory Compliance

### Partner / Alliance Search

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- Partner Identification and Meetings
- Joint Implementation Plans
- Partner Due Diligence
- Structuring and Negotiating Agreements

### Operations Setup and Support

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- Location Assessment
- Business Structure Setup
- Organization Design
- Operations Support

### Project / Bid Advisory

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- Contract Preparation
- Financial Modeling
- Concession Agreements
- Economic Analysis

## REPRESENTATIVE EXPERIENCE

Our engagement starts with assessment of the potential demand and feasibility of selling clients products and services in India based on general market assessment, market research, entry strategy and interaction with Indian customers and partners. The results and recommendations of this engagement are designed to help our clients determine international revenue potential of the Indian market and assess the effort required to enter this market. Further, this provides our clients a roadmap to launch initiatives required to sell products in India.

### **Case Study: India Market Feasibility and Entry Advisory for a Pre-stressed Storage Tank Company**

The client, a leading manufacturer of pre-stressed concrete storage tanks in the US, had identified India as a key potential market given the large number of infrastructure projects planned in India. It was seeking to assess the feasibility of selling pre-stressed tanks in India and identify key customers while managing the risks generally associated with an emerging market.

As part of this engagement, IVG Partners assessed the structure of the Indian market for client's product covering demand analysis, types of customers and their characteristics, suppliers of products and services, prevailing regulatory environment, competitive landscape, and the emerging trends. In addition, an analysis of the customers, buyer preferences, and procurement practices led us to identify the key success factors for client's business proposition. We then arranged a trip to India for the client to meet with prospective customers and partners.

The recommendations of this engagement enabled our client establish key client relationships and will help them participate in large bidding opportunities while managing risks.

### **Case Study: Strategic and Operational Assistance in Setting up a Container Manufacturing Unit**

A leading manufacturing company wanted to assess the feasibility of manufacturing containers in India. We were chosen to analyze the prospects for the container manufacturing and leasing Industry in India, identify plant locations and products to be manufactured in India, and perform financial analysis and business plan of the container manufacturing business.

We appraised the project with respect to the capital expenditure, operating cost projections, estimation of financial returns, and sensitivity of returns to critical business inputs. An appraisal was performed based on the data, information and clarifications provided by industry experts, which was further supplemented by secondary data available in the public domain. Sensitivity Analysis was then undertaken to analyze the impact of key operating parameters on the feasibility and financial performance of the project.

The results of this engagement helped our client identify the financial, operational effort and risks involved in

Below is a partial list of our engagements in India for North American and European companies:

- Preparation of India entry strategy for a leading international EPC contractor.
- Market Assessment of commercial vehicles gearbox and seatbelts in India for a leading international auto-component manufacturer.
- India Entry Advisory, Location Assessment and Setup support for a beauty product retailer.
- Financial evaluation of vendors for an international automobile company setting up a joint venture in India.
- Due Diligence of engineering design related investment opportunities for a manufacturing private equity fund.
- Formulating an India entry strategy and business plan for a global insurance company.
- Market study and Commercial viability assessment for setting up a 150 MW Lignite Based Power Project in India for an international developer of power projects.

## REPRESENTATIVE GLOBAL CLIENTS



PHILIPS



Baxter



ALSTOM



OLIVER WYMAN



## OFFICES

<p><b><u>New York (HQ)</u></b> 501 Fifth Avenue, Suite 302 New York, NY 10017 USA</p>	<p><b><u>New Delhi</u></b> Buildingo. 8, 2nd Floor, Twr A DLF Cyber City, Phase-II Gurgaon 122002</p>	<p><b><u>Mumbai</u></b> Electric Mansion, FL 4, Appasaheb Marathe Marg, Prabhadevi Mumbai 400 025</p>	<p><b><u>Bangalore</u></b> Vayudooth Chambers, Fl 2, Trinity Circle 15-16 MG Road, Bangalore 560 001</p>
<p><b><u>Kolkata</u></b> FMC Fortuna, A-10, FL 3, 234/3A AJC Bose Road Kolkata 700 020</p>	<p><b><u>Chennai</u></b> Karumuttu Centre, 5th Floor 634 Anna Salai, Nandanam Chennai 600 035</p>	<p><b><u>Pune</u></b> 5A, 5th Floor, Range Hills Road, Shivaji Nagar, Pune 411 020</p>	<p><b><u>Hyderabad</u></b> 301, Concourse Fl 3 No 7-1-58, Ameerpet Hyderabad 500 016</p>

Please visit our website [www.ivgpartners.com](http://www.ivgpartners.com). For further information, please contact Anil Kumar in New York at [akumar@ivgpartners.com](mailto:akumar@ivgpartners.com) or +001-646-807-9290