ENHANCING ETHIOPIAN INDUSTRIAL GROWTH BY ORIGINAL EQUIPMENT MANUFACTURING

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***Abstract*—Ethiopia is one of the land-locked countries in Africa. By African standards, Ethiopia is a potentially wealthy country, with fertile soil and good rainfall over large regions. Ethiopia possesses several valuable minerals, including gold and platinum. Unlike most sub-Sahara African countries, Ethiopia's resources have enabled the country to maintain contacts with the outside world for centuries. Since Ethiopia doesn't manufacture automotive, construction machineries, machine tools and agricultural equipment locally at present, it imports those from various countries.**

It is to introduce and encourage producing spare parts of automobile vehicles as an ancillary production canter. In Ethiopia many imported vehicles from different parts of the world are in daily use. Maximum numbers of vehicles are of Toyota. Also the spare parts are imported spending lot of money and also the time. Totally the country is depending on other source. The main source of transport is for all the classes of people are taxi, bus in the country. The cheapest transport available in all most all the cities of the country is Bajaj (three wheeler).

Ethiopia claims that there are lot of resources available in the country. It is true the country has treasure of resources which are not being fully utilized or explored. There is a need of industrial growth in the country. This paper is in relation to develop industries in the country by developing industrial zones, estates, techno craft guilds and help in enhancing private industry capacity. Industries such as manufacturing of machineries and automobiles spare parts treated as non- resources based industries and Govt, pays little attention for these industries. Ethiopia Govt. Industrial Master Plan (IMP) for the development of the manufacture sector became the leading growth sector of the economy. Utilizing the resources like man, machine and the techniques available to produce the spare parts as OEM (Original Equipment Manufacturer).In developed countries in the mass manufacturing industry; they are using latest equipment and improved methods in process to produce the quality goods. Similarly it is possible to produce same items maintaining the same quality here by using the proper tooling and methods with the equipment and resources available here. All goods are imported from other countries spending lot of money and time. The world is advancing day by day and emerging into new heights of growth. All developed countries following the same trend, and this country still in the stage of under develop. Hence it is time to follow the footsteps of the developed counties, in their industrial policies and the country's industrial and commerce bureau has to look their policies and implement in phased manner. Manufacturing is becoming the provision of complete service over the whole product life cycle. This new service provision requires manufacturers to get closer to their customer and to operate far more responsively than past. Many mass manufacturing industries like machine building, automobile and electronics industries are serious about their productivity improvements

Keywords—Machine tool parts, Agro machinery spares and Automobile spare parts

I. INTRODUCTION

The manufacturing sector has long been considered the main engine of economic growth and structural transformation. Ethiopia represents an excellent case study of the recent industrial policy experimentation in Africa. First, it is one of the few African countries that have formulated and implemented a full-fledged Industrial Development Strategy (IDS) since the early 2000s when industrial policy had been a taboo in the international policy forums. Unlike to many other reform policies that had to be agreed on with the international financial institutions, the IDS was designed by the Ethiopian government and based on its broad development vision, known as Agricultural Development Led Industrialization (ADLI).

Ethiopia is the ninth largest country in Africa with an area of 1, 1 million square kilometres. In Jan. 2014 the population was estimated at 94 million with a growth rate of 2.9 percent. The Ethiopian economy is largely based; agriculture on average accounts for 40 percent of GDP, 85 percent of exports, and 85 percent of total employment. Ethiopia's main imports include petroleum products, civil aircraft, vehicle′s spare parts, construction equipment, medical and pharmaceutical products, industrial equipment and machinery, both agricultural and industrial chemicals, agricultural machinery, hybrid seed, fertilizers, irrigation equipment and durable and non-durable consumer goods.[1]

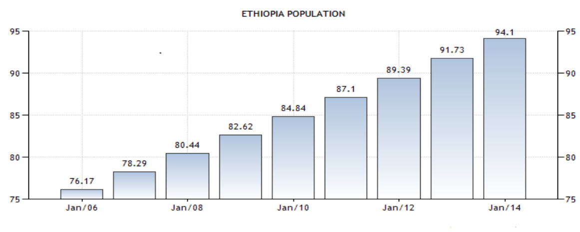

Fig. 1 Ethiopian Population

Products from original equipment manufacturers (OEMs) are usually comprised of a substantial number of technologically separable components, which are often produced from independent suppliers. An increasingly popular contract form used by OEMs to engage suppliers is the so- called branded component contract. The distinguishing feature of these contracts is the presence of the OEM′S brand and the supplier's brand on the end product and or on marketing materials.

Ethiopia's main exports are coffee, chat, leather products, pulses, gold, live animals and processed meat, oilseed cake, fruits and vegetables. Among these products, coffee is by far the most important, constituting an average of 55 percent of total exports by value. [2] Ethiopia, the leading coffee producer in Africa and fifth largest producer of coffee in the world, ranks 11th in the global exports trade; standing second in Africa following Uganda.

Year	2010	2011	2012	2013
Kilos	3,324	2,675	3,203	2,778

Table 1: Exports of All Forms of Coffee ('000 Bags of 60 Kilos)

II. ETHIOPIANINDUSTRIAL POLICY

The government's broad economic and industry specific policies are designed to increase the growth potential and international competitiveness. In addition, Ethiopia's extensive minerals and energy resources ensure that Ethiopia has relatively low utility charges for industrial users. Ethiopia's welcoming attitude to foreign investment, today, *Invest Ethiopia*, the Governments inward investment agency, provides foreign firms with information in regard to potential investment opportunities in Ethiopia. *Invest Ethiopia* can provide information on location, joint venture partners, establishment costs and skills and taxation. Currently Industrial Development Strategy is primarily focus on the promotion of agricultural and industrialization, export based industries and expansion of labor intensive industries.[3] Hence in this strategy, growth in agricultural productivity enable to have high demand for manufacturing goods and motivates expansion in production capacity utilization and investment in manufacturing.

1. Rapid, Sustainable and Equitable Economic Growth

- Continued focus on infrastructure & social development.
- Enhance productivity of agriculture and ensure its continuity to be the major source of economic growth.
- Strengthentheenablingenvironmentfortherapiddevelopmentoftheindustrialsector
- Promote economic growth that generates adequate jobs

2. Agriculture –the Major Source of Economic Growth

Why focus on Agriculture?

- HugePotentialforproductivityimprovements,andhenceforrapideconomicgrowth,
- Significance to vision of becoming middle income country,
- Significance to MDG S target of halving poverty,

- Ensure food security,
- Significance to mitigating inflation pressure,
- Enhancing foreign exchange,
- Significance for industrial development (inputs, market, finance).\
- Focus on market oriented production.
- Focus on small holders farming and pastoralists to enhance productivity.
- Expand use of better technologies and farming practices:
- Priority focus on Scaling up Best Technologies and Practices used by model farmers to all other farmer.
- New technologies will also be delivered to farmers and pastoralists.
- Strengthening the agricultural extension system.
- Expansion of livestock development, irrigation developments and better use of natural resources.
- Large private investors in agriculture will be encouraged:
- High value horticulture products :E.g. floriculture
- Large-scale Commercial farms encouraged.
- Improved system of agricultural marketing:
- Integrated market: ECX with primary markets,
- Strengthening Cooperatives.

3. Enabling industry to play key role in the economy

Rapid industrial growth for:

- Generating adequate jobs,
- Enhancing foreign exchange earnings,
- Sustaining the agricultural growth,
- Promoting entrepreneurship & private sector development

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Primary focus on

- Small & micro industries,
- But adequate focus to medium & large scale industries too.\

The major manufacturing sub-sectors in Ethiopia are food, beverages, textiles, clothing and leather all of which are also related to the agricultural sector. Ethiopia's Growth and Transformation Plan (GTP), for the Five-year period (2010-2015). Ethiopia's economic growth for the 2012/13 fiscal year was 9.7 percent the annual growth of major sectors: agriculture, industry and service sectors were 7.1, 18.5 and 9.9 percent respectively and their shares out of the total GDP were about 43, 12 and 45 percent respectively. Over the last ten consecutive years, the country's economy has registered rapid growth;

The average growth rate of the GDP was stated to be 10.9 percent. The agriculture, industry and service sectors annual average growth was 9.3, 12.2 and 12.4 percent respectively. In the last three years of the Growth and Transformation Plan (GTP) period, the economy has registered robust growth. During that period, the annual average growth rate was 10 percent. Agriculture, industry and service sectors have 7, 16.9 and 11 percent annual average growth rate respectively.

As majority of the Ethiopian people depend on agriculture for their livelihoods, it becomes pretty clear and pretty obvious to design a national economic development policy framework relating and reflecting agriculture and agriculture lead industrialization. Generally, the Country's National Development Policy Framework is designed to:

- ❖ Fight and eradicate poverty through achieving broad-based and pro-poor growth;
- ❖ Medium term Plans/Programs such as the then Sustainable Development and poverty Reduction Program (SDPRP) and the now Plan for Accelerated and Sustained Development to end Poverty PASDEP) are primary vehicles for overall socio-economic transformation and achieving the millennium Development Plan (MDGs):
- ❖ The SDPRP which spanned the three-year period (2002/03-2004/05) launched in 2002 following wide-ranging public consultations in 2001 was built on Agriculture, rural development and food security (Agriculture

Development Led Industrialization-ADLI), decentralization and empowerment, capacity building in the public and private sector, reforms in both the justice system and the civil service;

❖ The Plan for Accelerated and Sustained Development to end Poverty (PASDEP) is a five-year (2005/06-2009/10) strategic framework that builds on the directions pursued under the SDPRP. The PASDEP deepens the fundamentals of the then SDPRP; private sector development, and the scaling up of resources to achieve the MDGs.

2.1 IMPORT AND EXPORT IN ETHIOPIA

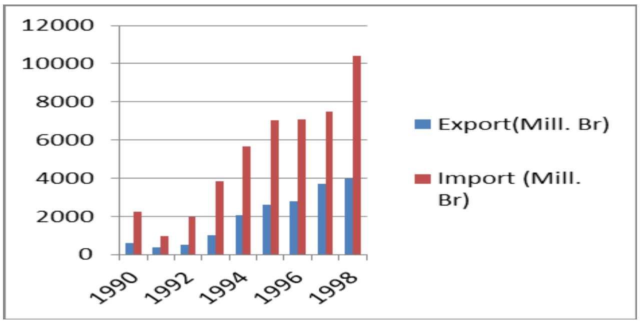

Fig. 2. Import and export in Ethiopia

2.2. MANUFACTURING INDUSTRIES IN ETHIOPIA

Modern manufacturing industrial sector in Ethiopia was established at the end of 19thcentury total of 25 factories were established mostly by foreigners. Currently the Ethiopian manufacturing industry has increased to 2172[8]. The following export-oriented industries can continue to be supported in the next five years:

• Leather and leather products
• Agro-processing
• Textile and garment
• Floriculture

The development policies and strategies pursued during Sustainable Development and Poverty Reduction Program (SDPRP), the country's vision and achievements registered under SDPRP were the basis for the PASDEP. The Plan for Accelerated and Sustained Development to End Poverty (PASDEP) is the First Five Year Phase to attain the goals and targets set in the MDGs at a minimum. The main objective of the PASDEP is to lay out the directions for accelerated, sustained, and people-cantered economic development as well as to pave the groundwork for the attainment of the MDGs by 2015. Eight Pillar Strategies were developed under PASDEP which have been carrying forward important strategic directions.[4],[5]

These pillar strategies were: ·

• Building all-inclusive implementation capacity;
• A massive push to accelerate growth;
• Creating the balance between economic development and population growth;
• Unleashing the potentials of Ethiopia's women;
• Strengthening the infrastructure backbone of the country;
• Strengthening human resource development;
• Managing risk and volatility; and,
• Creating employment opportunities

Factors Affecting Industrial Growth [9]

- Prevailing political and economic environment
- House hold income (purchasing power)
- Economic development (GDP)
- Price and running costs
- Quality of after sales support (parts & workshop)
- Promotion and advertisement
- Ease of maintenance and cost of maintenance
- Reliability of the product
- Government policy
- Customs and Excise duty
- Population and demography
- Technology
- A closed financial sector
- Lack of capable financers

III. ETHIOPIA'S ECONOMY

Ethiopia is an extremely poor and overwhelmingly agricultural country, with agriculture employing 80% of the people and farm products accounting for almost half of the country's GDP and 60% of its exports (mainly coffee). The great majority of the population is engaged in subsistence farming. [6]The chief farm products are cereals, pulses, coffee, oilseed, cotton, sugarcane, potatoes, khat, and cut flowers. Large numbers of cattle, sheep, and goats are raised, and there is a fishing industry. The main industrial centers are Addis Ababa, Dire Dawa, and Nazret. Ethiopia has a poor transportation network, with few year-round roads. The country's one rail line links Addis Ababa and Djibouti; plans for its revitalization were announced in 1998. The chief ports serving Ethiopia, which became landlocked with Eritrean independence, are in other countries: Djibouti, in the country of Djibouti, and Aseb and Massawa, in Eritrea. The border war that began in 1998 ended Ethiopian use of Eritrea's ports.

The annual value of imports into Ethiopia is usually considerably higher than the value of its exports. The principal imports are food and live animals, petroleum and petroleum products, chemicals, machinery, motor vehicles, cereals, and textiles. The main exports are coffee, khat, gold, leather products, live animals, and oilseeds. The leading trade partners are China, Saudi Arabia, the United States, and Italy.

3.1 Impressive Social-Economic growth; Significant Poverty Reduction

Under a policy of Agriculture Development Led Industrialization, as a central element in Ethiopia's economic development framework, the country's agriculture sector has been identified as the most important economic sector, on the basis of the absolute necessity of ensuring food security and increasing agricultural productivity. The central point of any analysis of these is that all the government's policies and strategies, since 1991, have been designed to fight against poverty, backwardness and disease as well as ensure sustainable peace, good governance and democracy in the country, and the region, through popular and genuine participation of all the peoples of the country. This broad-based approach has provided for sustainability and led to the development of new development sectors. In the last decade in particular, these policies have begun to show

Impressive gains, with an annual GDP growth rate of over 10% for the last ten years, coupled

Classification	Average Growth Targeted (2005/06-2009/10)		Average Growth Achieved (2005/06-2009/10)
	Base Case	High Case	
Agriculture	6	6.4	8.4
Industry	11	18.0	10.0
Services	7	10.3	14.3
Real GDP	7	10	11.0

Table 2: Growth Performance

with a dramatic decline in the proportion of people living in absolute poverty, falling from 45.5% in 1995/6 to 27.8% in 2011/12 (representing a fall of nearly 40%). In absolute terms this means Ethiopia lifted an estimated 10 million people out of extreme poverty in just over a decade (from 2000 to 2011). It might be noted that in that

1. Overview of Growth Performance of PASDEP

Growth Performance: Real GDP Growth Rate (%)

Sector/Indicator	2010	2015
Agriculture		
Crop productivity (qt/ha)	17.0	22.0
Major food crop production in million qntls	191.3	267.7
Industry		
Sugar production (000 tonnes)	315	2250
Export of sugar (USD mln)	0	662
Textile &garment export (USD mln)	22	1000
Leather exports (USD mln)	76	497
Cement producing capacity (mlnton)	2.7	27
Total Poverty Head Count (%)	29.2	22.2
Gross domestic saving as% of GDP	5.5	15.0
Tax revenue as% of GDP	11.3	15.0

Table 3: Selected Macroeconomic and Sector Targets

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ollowing list of issues that organisations should consider in response to the main trends in global manufacturing:

- Human resources issues
- Using regulations as a positive force
- Intellectual capital/knowledge management
- Agility and dynamic supply chain network
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Year	Agriculture value added (% GDP)	Service value added % GDP)	Industry value added (% GDP)				
			Mfg	Const.	Elec.	Mining	Industry total
2000/01	50.9	30.0	5.3	4.3	2.1	0.5	12.1
2001/02	49.1	38.6	5.3	4.9	2.2	o.5	12.9
2002/03	44.9	41.7	5.4	5.7	2.4	0.5	14.0
2003/04	47.0	39.7	5.2	6.1	2.3	0.5	14.0
2004/05	47.4	39.7	5.2	5.8	2.2	0.4	13.6
2005/06	47.1	40.4	6.1	4.3	2.5	0,5	13.4
2006/07	46.1	41.7	5.0	5.7	2.2	0.4	13.2
2007/08	44.6	43.5	4.8	5.6	2.2	0.4	13.0
2008/09	43.2	45.1	4.9	5.8	1.9	0.4	13.0
009/10	42.0	46.1	4.9	5.8	1.8	0.5	13.0

Table 4: Trends in Performance of the Economy Growth Rates (%)

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08 per actual	2007/08 per actual
GDP in 1999/00 Prices	-2.1	11.7	12.6	11.5	11.5	11.6	11.6
Agriculture	-10.5	16.9	13.5	10.9	9.4	7.5	7.5
Industry	6.5	11.6	9.4	10.2	10.2	10.4	10.4
O/w: Manufacturing	0.8	6.6	12.8	10.6	8.3	7.1	7.1
Construction	13.6	9.5	7.5	10.5	10.9	11.3	11.3
Services	6.6	6.3	12.8	13.3	14.3	17.0	17.0
O/w: Banking and insurance	10.8	19.7	24.2	28.7	15.1	24.9	24.9
Distributive services	5.5	6.4	14.7	14.2	16.0	15.2	15.2
Other services	6.5	6.1	10.9	12.5	13.1	14.2	14.2
Real GDP per capita GDP	-4.6	10.7	9.0	8.0	7.5	7.6	7.6
Inflation	15.1	8.6	6.1	10.6	15.8	25.3	25.3

Table 5: Trends in Sector wise Economy Growth Rates (%)

3.2. EUROPEAN UNION TO SUPPORT INDUSTRIAL GROWTH AND ECONOMIC DEVELOPMENT IN ETHIOPIA

The European Commission will give new support to Ethiopia to modernize and expand the industrial sector. The assistance is meant to help create an enabling environment for Ethiopia to tap its potential for industrial growth and make the country's economic development, which is currently based on agriculture and (to a lesser extent) services, more diversified. The Transformation Triggering Facility (TTF), funded with €35 million will support Ethiopia's plans to accelerate industrialization and private investments [7]. Four main priority sectors with good development potential in Ethiopia will be supported: leather and leather products; textiles and clothing; agri-processing; and pharmaceuticals. The development cooperation programme with Ethiopia is one of the largest the EU runs in the world. Disbursements in the past years amounted to an average of about €200 million per annum. The cooperation programme centres around three focal sectors, (i) rural development and food security; (ii) transport and regional integration; and (iii) macro-economics and governance. The Ethiopian Government has set an ambitious target for the country of reaching middle income status by 2025. This requires sustaining the average growth rate of about 11% of the past 7 years for at least another decade.

IV. AN OVERVIEW OF NEWLY INDUSTRIALIZED COUNTRIES

The industrial development policy of Singapore, China, India, Korea, Taiwan and Malaysia was closely similar. Initially they use focused import substituting policy and work with for two or more decades. Of course it has brought a remarkable development but no up to their expectation. To achieve their expectation they change their policy to export led industries. During this time a lot of challenge was faced due to lack of raw materials, lack of technologies, lack of technical skills and knowledge [10]. For this reason initially their product was unable to compete in international market. To tackle these problems the government of each nation plays a significant role by establishing research canters, collaboration with developed countries, and providing funds for R&D, supporting and subsidizing technology transfer and commercialization activities, investing in human development through internal and external source of training and facilitating specialization. All this makes these fast developing countries grow fastly and become competent in international market with short period of time.

4.1. INDIA'S GDP GROWTH IN % [13]

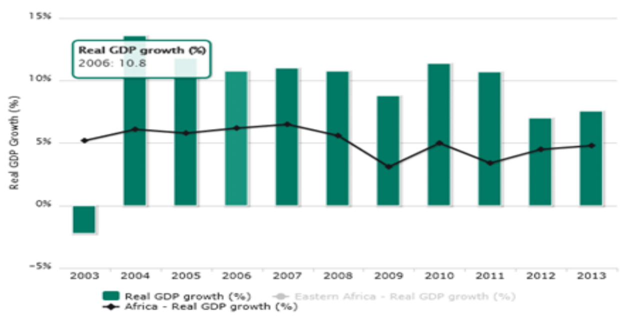

Fig. 3 India's GDP growth in %

44.2. SECTORAL GROWTH [14]

Average annual growth rate in percent

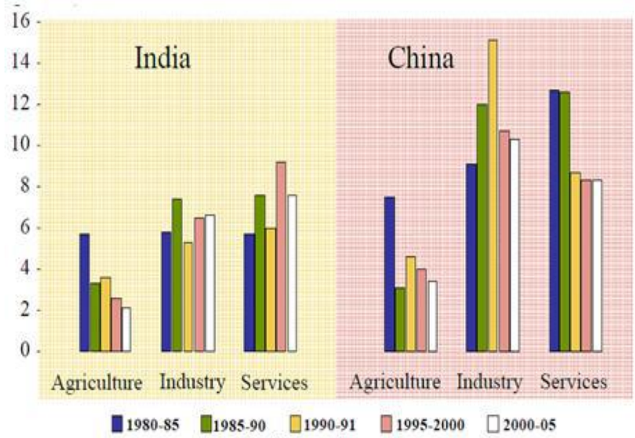

Fig. 4. Sectoral growth

In the current PASDEP, most of the targets in the trade and industry sector are expressed in growth rates, shares of GDP, or export earnings in USD. Some of them count numbers of policy actions taken or firms supported [12]. Tables 6 show respectively the numerical targets and major achievements by 2007/08 in the trade and industry sector as reported in the PASDEP Annual Progress Report 2007/08:

	Baseline (end 2004/05)	Target (2009/10)
Growth rate of industry value added (%)	8.1	11.5 (average)
Share of industry in GDP (%)	13.6	16.5
Revenue generated from industrial export (leather and leather products) (USD million)	63.73	500

Table6: Numerical targets and major achievements

V. CONCLUSION

Drawing lessons from Eastern Europe and Asia, the project aims to be comprehensive by supporting economic transformation not only through policy fine tuning and capacity building of key institutions, but also by supporting intermediary organization's as well as providing direct support to small and medium sized enterprises in order to increase their competitiveness. Country has to establishing research centers, collaboration with developed countries, and providing funds for R&D, supporting and subsidizing technology transfer and commercialization activities, investing in human development through internal and external source of training and facilitating specialization. All this makes these fast developing countries grow fastly and become competent in international market with short period of time. Once the country grows industrially and economically, sure one day it will be recognized as one of the developed country globally

Moreover Countries experiences have shown that successful industrialization necessitates the conscious and active role of the state to counter balance the impact of market failure and to guide, coordinate and support industrial investment and entrepreneurial activities. Industrialized countries deliberately concentrated import –substituting efforts very early on light and relatively labour intensive industries, which did not involve significant economies of scale and could therefore be run reasonably efficiently at the low output volumes demanded by the domestic market, protecting local producers against import competition include introducing import licensing on manufactured goods. Ethiopia's vision in the economic sector is ―To build an economy this has a modern and productive agricultural sector with enhanced technology and an industrial sector that plays a leading role in the economy; to sustain economic development and secure social justice; and, increase per capita income of citizens so that it reaches at the level of those in middle-income countries.‖ It is suggested to follow the policies of the developed countries mentioned, who are doing better and select their policies. Implement the policies in industrial growth plan and start producing the goods. Once the products produced are accepted in the international market like other countries, which are in the same field, really the country will gain good reputation and feel proud saying that **MADE IN ETHIOPIA.**

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