

A Comparative Analysis of Agriculture and Economic Development of Nepal with Kautilya Arthashastra

Yadav Mani Upadhyaya^a,

^a Lecturer of Economics at Tribhuvan University, Nepal, yadavghimire@yahoo.com
<https://orcid.org/0000-0003-3089-3615>

A Comparative Analysis of Agriculture and Economic Development of Nepal with Kautilya Arthashastra

ARTICLE INFO

Research Article

2019, Vol. 1(2), 131-149

e-ISSN 2667-5927

Article History:

Received: 19.02.2019

Revised: 25.02.2019

Accepted: 22.03.2019

Available Online: 15.04.2019

JEL Code: N55, O13

Keywords: Kautilya Arthashastra, Economic development, Law, State agriculture, Policy, Trade and commerce, Governance

Abstract

The book Kautilya Arthashastra written in Sanskrit language before 2500 year in India, discuss theories and principles of governing a state. The treatise deals thoroughly with statecraft, economics, espionage, administration, war, science, ecology and various other aspects pertaining to human living. The focus of study of the article is analytical component of the agriculture and economic development of Nepal as compared with the Kautilya Arthashastra. The goal is to develop proper management of that tools where the improvement institutionally and structurally in agriculture sector. The overall objective of this study is the entire parts of Kautilya Arthashastra, the bases for the economic development from the agricultural development has been selected, and comparative study is done with the present agriculture and economic development of Nepal along with reviewing its compatibility has been evaluated. The method of study is descriptive and analytical in nature. The analytical tool has depended on the conceptual and development frameworks and descriptive research design has been applied by quantitatively and qualitatively. The result of the study is the base of economic development is the development of agriculture sector is important in Kautilya Arthashastra and is still equally important in Nepal. While comparing today with Kautilya Arthashastra, he has also mentioned that economic prosperity is impossible without the development of agricultural sector and life is not happy without agriculture production and that is important from the theoretical and practical point of view. This research article concludes that the agriculture development was the backbone of yesterday, today and it will equally for tomorrow for economic development, only dimensions can differ in that.

1. Introduction

Kautilya the great Indian Philosopher, and statesman, has also known as Vishnugupta and by the name Chanakya. Kautilya has written many books. One of his main input is Arthashastra which is believed to have been published in Northern India more than 2500 years ago somewhere between 321 and 286 BC (Fleet, 1914). Arthashastra deals thoroughly with statecraft, economics, espionage, administration, law, management, war science, ecology and various other aspects pertaining to human living. It contains useful insights about economics. He has considered a strong and well-off monarchy but his decisive object, however, has not to benefit the king but to benefit the people.

In Arthashastra, Kautilya has described three sector economies. Among the three pillars of an economy he has given high importance to agriculture, the other two pillars being animal farming and commerce. Kautilya is of the view that cultivable land is better than mines because mines fill only the treasury while agriculture production fills both treasury and store houses. Specialization in agriculture is done with the help of professionally trained managers of farming and animal husbandry.

Kautilya believes agriculture is the basis of an economy. The Arthashastra has spoken about the functions of a Superintendent of Agriculture, food grains to feed the population, it generates revenue and employment. He has talked about minute details of land, cultivation, farm products, farming, and trading transactions. He has had an in-depth methodology for cultivation, selection of seeds, and more importantly, meteorology and rainfall. He has pointed out that irrigation should be planned and there should be a provision for buffer stock, which is a state responsibility. Arthashastra has highlighted the significance of taxes on agriculture and allied activities; tax the richer farmer might be something that needs to be done.

In the economic structure of Kautilya's time, the king (the State) is to a large level involved in the production. Agriculture occupied both public and managed farms as well as personal farms. The king was advised to (and did) bring on mining operations and manufactures, utilize timber and elephant forest, offer services for cattle-breeding and commerce, construct roads for traffic both by land and water and set up market towns.

Kautilya has given priority to farmer; a farmer busy in farming activity could not be arrested by the state. The farmer is protected by the law. Kautilya has argued for gathering and repairs of data on agriculture as is provided needed information for revenue evaluation and collection. He has made suggestions for the improvement of land records too.

Consumer protection is strongly emphasized in Arthashastra. This may have been regarded as a benefit to citizens of the sovereign's control of all trade and

commerce. The sale of products at the place of production is forbidden and they could only be sold at designated official urban marketplaces. While on the one hand, this may have strengthened consumer protection as government officials could verify the quality of wares for sale, on the other hand, it was also, in all likelihood, a means to the more efficient taxation of produce. Produce has been taxed often on the way to market and at the marketplace. Furthermore, this system has been almost certainly imparted urban-bias to the economic system.

Kautilya is eagerly aware that treasury's fortunes depend on the agricultural productivity of the nation industries. He, therefore, outlines measures for the growth and superior organization of mines and forests, agriculture and livestock, manufacturing, and commerce. He is very conscious of the importance of commerce and trade which totally depends on the agriculture production. Agriculture output as a contributor to economic development and as a source of government revenue proposes several measures for regulating commerce. Kautilya has argued that agriculture tax policy, price policy, wage rate policy and revenue policy should take priority for the country's development. Kautilya advocates limiting the taxation power of the State, having low rates of taxation, mining and steady increase in taxation and most importantly devising a tax arrangement that ensure observance. He strongly encourages foreign trade, basing it on the foundation that a winning trade contract to be recognized, it has to be useful to all. He emphasized the state manage and investment in land, water, and mining. Kautilya is a right statesman who has bridged the gap between practice and idea. He has suggested built-in checks and balance in systems and events for the restraint of malpractices.

The agriculture sector plays an important role in accelerating economic development and achieving overall socio-economic development and also, the most important contributor to the countrywide economic growth. Kautilya has focused on promoting economic growth by the development of agriculture. It shows that agriculture's share of contribution for economic development has not changed during the time of Kautilya.

We can not only learn about the methodological problems of the time, the scope of their inquiry, and the reality of their assumptions but also gather knowledge of the methodological, epistemological and practical problems of modern economics from the Kautilya Arthashastra. Agricultural concepts and variables that we can identify in the Kautilya model, leave us with no doubt in our mind that these are the same standard exogenous and endogenous variables that construct any modern economic model for the development.

Kautilya Arthashastra represents a remarkable scholarly achievement in many fields of Nepal like as agriculture, industry, trade, and commerce etc. Although

containing some inconsistencies, and some peculiarities from a Nepalese perspective, it is a valuable guide to political economy in its time and provides us with fortunate into the Kautilya economic system and society. Its close association with a long Hindu tradition is clear, such as its emphasis on the social responsibility of the state towards its citizens. With sympathetic and careful reading, one can pick up from it some economic wisdom of relevance to our times, and it certainly used to illustrate several modern agricultural ideas in Nepal.

2. Objectives and Related Literature

The overall objective of this research article is to analyze the agricultural development of Kautilya Arthashastra and Nepal. The goal is, therefore, to analyze the comparison between agriculture and economic development of Nepal with Kautilya Arthashastra

Singer (1979) has described agriculture-industry linkages and interactions. This linkage stresses that increasing agricultural productivity expands internal demand for intermediate and consumer goods produced by domestic industries and, in turn, helps to support the drive toward industrialization. Such agricultural growth generates incomes for the poorest members of society by increasing the supply of wage goods.

Yang and Zhu (2004) have used a two-sector intertemporal model to demonstrate that, without raising agricultural productivity, a traditional economy cannot overcome the fixed supply of natural resources and therefore cannot sustain the growth process. The relationship between agriculture and broader economic growth has recently been examined using dynamic general equilibrium approaches.

Gardner (2005) has focused that agricultural growth is surprisingly independent of the per capita income growth for workers in the agricultural sector. Neither is necessary nor sufficient for the other. Although the potential for agriculture to serve as an important engine in overall economic growth appears compelling to some theorists, several arguments in the literature suggest that the causality may run in the opposite direction, *i.e.*, from nonagricultural to agricultural growth.

Mellor (1961) has given us the relation of agriculture and economic development in his book 'The Role of Agriculture in Economic Development'. Practically every person agrees that the final goal is a market-oriented economy that uses prices signals to guide resource allocations, investment decision, and rewards to factors of production. Further, if poverty and underdevelopment are basic problems of market breakdown, government interventions will be necessary to starting and directing the development practice.

Timmer (1992) has explained strategies that seek rapid industrialization at the expense of agriculture, even if the intent is to alleviate poverty, it actually slows down economic growth and increases levels of poverty. In a country with many

impoverished people, policymaker must address both growth and poverty through an integrated development strategy. Rapid reductions in poverty are achieved most effectively when the strategy for economic growth specifically focuses on raising rural productivity.

Nene (2002) has drawn a likeness between the agricultural practices and economic development in Kautilya period and the modern times. He points out policy and administrative support from government officials in Kautilya period or of today. For the production of crops, the supply of good seed and other purchases inputs are arranged. Assistance is provided in making available other resources such as labor, machinery, implements, and bullocks or tractor power.

MoAC, (2002) has explained about the suitable agriculture policy, and investments are needed to realize the full potential of the rural economy. Agricultural development can supply food protection for the country at a comprehensive level and significant contributions to the growth of the rest of the economy through rural savings and foreign trade earned by exporting agricultural commodities. With the right approach to developing the sector, food security at the household level can be measurably improved and the pace if poverty alleviation speeded up significantly.

Bhattarai (2012) has examined about the growth-oriented investment in agriculture for the economic development. A number of roles for the Nepal government is important in linking agriculture, economic growth, and poverty alleviation: development of a strategy for poverty alleviation, maintenance of a growth-oriented macroeconomic environment investment in agricultural technology and rural infrastructure, including irrigation, at levels that call forth private investments in the rural economy; and development of the physical and institutional foundations for a competitive market economy, including a free flow of information, rapid communications, and effective policies to lower transactions costs, especially transportation costs.

Pant and Palikhe (2012) have explained that the labor migration has joined the market linkages. Market linkages connect a dynamic agricultural sector, growing industrial sector, and service sector. If the agriculture and non-agriculture sector (industry and service sector) are growing together it creates more opportunities than it destroys.

Interim plan (2010/11 – 2012/13) has covered the overall economic development of the nation. The overall development of the nation depends on the development of infrastructures (non-market linkages) in the agriculture areas. The economic development depends mainly on the agriculture and various industries, business and employment situation activated in the rural areas.

3. Methodology

The paper has conducted to analyze the agriculture and economic development of Kautilya Arthashastra as well as that of Nepal. It has described the conceptual framework for an analysis of agriculture and economic development. Conceptual framework applied as an analytical tool by “means-end-continuum” as described by Timmons (1965). Development framework designed with the help of a literature review of agriculture and economic development in Kautilya Arthashastra and in Nepal. Agricultural activities support the development of industry, trade, and commerce. These sectors are needed to develop the transport, communication, power, education, health, and others. This study is descriptive and analytical in nature. So, the analytical and descriptive research design has been applied.

3.1 Conceptual Framework (Analytical Tool)

Economic development, which is the goal or broad objective of the society, is a means in relation to a higher or superior end- life. The basic ends (life and opportunity) is not competitive when we look at them in their entirety (as a matter of fact there cannot be single-end functioning as an entity by itself in today’s world), they are essentially complementary. Nevertheless, the relationships may become competitive and conflicts may arise in the process of achieving these ends. For instance, as Timmons (1965) has pointed out life might be purchased at the cost of liberty and opportunity. Similarly, liberty might be purchased at the cost of living. Wars have been fought with huge sacrifices in human life for liberty. Thus, conflicts must be resolved in an optimum achievement of all ends.

- Institutional and structural reforms (conditions for take-off)
- Technology and capital (take off to development)
- Commercialized agriculture and competitive industry (growth and social progress)
- Increase in Productivity and Per capita Income (life and opportunity).

3.2 Development Framework (Analytical Tool)

The major problems of economic development in Kautilya Arthashastra and in Nepal are related to the agriculture sector. The major areas of policy concern in economic development: such as level of income, investment or capital formation, employment, income distribution, the balance of payments etc.

However, this is not meant to imply that agriculture development can be pursued without support or interactions with other sectors of the economy. Although agriculture progress is a strategic element in the development process, it cannot be only one. It is only one part of the economy or development system, through a major one, and other parts of the system, manufacturing, must move along with

it. In the initial stage of development, it is important to focus on interrelationships between agriculture and economic development but other sector's contribution is essential for the economic development.

Agriculture is as a core component or part of the system. The rate of the progress in the economy depends upon the policy measures taken to strengthen the mutual interdependence of the core part with other identifiable parts such as transport, communication, power, social services, knowledge, manufacturing, and trade, in order to enable the system to adapt to the overall objective- national development. The concept of the interrelationships might be broadly categorized as inflow and outflow linkages. In the present example, the transport, communication, power, and social services provide inflow linkages: manufacturing, processing, commerce and trade provide outflow linkages.

In the agriculture-based inflow-outflow linkages concepts, the emphasis on development policy guidelines converges around agriculture activities in such a manner that the development activities in other parts of the system serve basically inducement mechanism to the development in agriculture. The rate of strengthening of inductive effects of linkages depends on the level of absence or presence of traps, such as structural traps in the path, related to incentives, knowledge and capital, about which more will be said later.

- Agricultural activities
- Industry, commerce and trade
- Transport, communication, power, education, health and other services
- Development and growth.

3.3 Qualitative (Descriptive Tool) and Quantitative (Descriptive Tool)

This study is primarily a qualitative one. A part of this dissertation is basically based on a qualitative research methodology called hermeneutics. Hermeneutics is widely applied in any fields of social science. It is the art of interpreting the theory. It can be described as the interpretation and understanding of ancient literature and religious texts.

Simple quantitative analysis has been used to analyze the agriculture and economic development. To understand and to information easily, there is used of the tabulation of data and its graphical presentation, where necessary.

4. Analysis and Results

4.1 Analysis of Agriculture and Economic Development in Kautilya Arthashastra

Looking at the entire document (Kautilya Arthashastra), it can be seen that Kautilya has attempted to set down ways of achieving excellence in agriculture development and look forward to economic development. He has written a very scientific and articulate book on agricultural economics. It is amazing that he has shown such great vision and foresight while talking about agriculture, which has ensured a sustainable basis for human existence and livelihood. Kautilya mentioned some valuable features for the agriculture and economic development which can be summarized as follows.

- Kautilya is of the view that cultivable land is better than mines because mines fill only the treasury while agriculture production fills both treasury and store-houses.
- Superintendent of agriculture and state that the king should understand the details of agriculture.
- He has talked about minute details of cultivation, farm products, farming and trading transactions. He has had an exhaustive methodology for cultivation, selection of seeds, and more importantly, meteorology and rainfall.
- He has pointed out that irrigation should be planned and there should be a provision for buffer stock, which is a state responsibility.
- Kautilya has given additional concern on professionalizing agriculture, particularly for large farms, would be needed with professionally trained managers able to study the global progress of prices, modern farming techniques and exercise of technologies such as satellite farming.
- Kautilya Arthashastra has highlighted the significance of taxes on agriculture and allied activities, 'tax the richer farmer might be something that needs to be done.
- Kautilya has given highlighting on the use of land for higher production. Some land, which was fertile before, has become fallow because of the lack of fertilizers or the wrong uses of fertilizers.
- Importance on organic farming, which obviates require using chemical fertilizers, is an obvious option.
- Kautilya is eagerly alert that Treasury's fortunes depend on the development and economic efficiency of the nation's industries.
- He, therefore, outlines measures for the development and improved management of mines and forests, agriculture and livestock,

manufacturing, and commerce.

- He is very aware of the importance of commerce and trade which totally depends on the agriculture production in the Kautilya's period.
- Agriculture output as a contributor to economic development and as a source of government revenue proposes several measures for regulating commerce.
- A farmer busy in farming activity could not be arrested by the state.
- The farmer is protected by the law.
- Kautilya has focused for the gathering and preservation of data on agriculture as it provided essential information for revenue appraisal and collection. He has made suggestions for the improvement of land records too.
- Consumer protection is strongly emphasized in Arthashastra.
- Manufacturing good has been taxed a lot on the way to market and the market-place. Additionally, this manufacturer has been maybe imparted urban-bias to the economic scheme.
- States procurement policy, which guarantees a low price for rice and wheat crops to farmers, has created a bias in their support and a twist of cropping pattern, which is not market determined.
- The agriculture economy that has to struggle with the foreign market continues to be at the compassion of the vagaries of the monsoon.
- Nepal government has always prioritized agriculture in the country with a major share of the annual budget in the advancement of agriculture each year.

4.2 Analysis of Agriculture and Economic Development in Nepal

Agriculture is the predominant sector of the Nepalese economy. It provides a major source of livelihood to about 70 percent of the population. The sector performance records a virtual stagnation with 3.13 to 3.2 percent average growth rates during the past three and half decades. It contributes about thirty-five percent to GDP and serves as a major source of raw materials to most of the agro-based industries. It, therefore, rightly deserves topmost priority. The well-developed and capable agriculture sector alone is a great source of raw materials, employment generation and capital for the development of the non-agriculture sector. While the development of the agriculture sector has received top priority and huge amounts of money has been invested in this sector, the productivity of

the major crops is very low compared to the productivity of other countries. The difficult geographical condition, lack of irrigation facilities, reliance on monsoons, and traditional and subsistence level of agriculture farming are the major obstacles to the development of this sector.

Nepalese agriculture is distinctive in the sense of its difficult nature of farming systems that are intertwined among the variety of enterprises of crops, livestock, poultry, vegetables, fruits, spices, fisheries, agroforestry and non-timber forest product. Majority of the farmers produce what they consume and consume what they produce. Majority of the population are involved in traditional agriculture and animal husbandry. Agriculture constitutes only around one-third of GDP.

Nepal's major agricultural production is Paddy, wheat and maize. Barley, Potato, etc. are also major production in the Himalayan region. Terai region in Nepal is also called green belt as most of the crops production of the country is supplemented by this region. Plain land with fertile soil, easy irrigation, suitable climate and infrastructural development has boosted the agricultural productivity of this region compared to hilly and Himalayan regions. But despite the possibility, Nepal's agriculture has not been able to upgrade from the traditional style of farming. Majority of farmers still practice traditional ways of farming like using livestock for plugging land, old seeds and local labors. Further, farming in Nepal is seasonal and weather dependent. The basic farming is a monthly cycle of paddy and wheat production which is always affected by various natural and manual causes like drought, erratic rainfall, lack of seeds and labors.

Nepal government has always prioritized agriculture in the country with a major share of the annual budget in the advancement of agriculture each year. Foreign aid flow, which is a source for nearly a third of public investment in agriculture, remained stagnant during the past three and half decades. Donor supports in agriculture are mainly focused on infrastructure, natural resource sustainability, and livelihoods improvement. But, still, agriculture in Nepal has been a traditional continuity and based totally on subsistence farming. The business aspect of agriculture in Nepal is very less whatever agricultural industry is there, they have been limited to small regions and district serving local consumers only.

Although a decade long prioritized investment and planning the agriculture sector in Nepal is continuously decreasing in terms of production and labor involvement. Besides the traditional trend of farming, Nepal also lacks youth involvement in farming. In fact, most Nepalese have never taken or better said or never thought agriculture as a business. If such a structural shift were systematic it would be satisfactory. But in absence of sustainable development in other sectors like

service and industry, such shift could be suicidal for a country having deep-rooted lifestyle, culture, religion, and knowledge based on agriculture. Until now Nepal has been considered an agriculture country with high proportion of its population involved in agriculture. It was a food exporting countries a decade ago but it is a food importing country now. However, coming to the current time the country has shown dramatic change. Agriculture was the primary life-sustaining the activity of the country from early history. It has been deep-rooted in the tradition, life practice, literature, religion, knowledge and philosophy of people. A sudden decline or shift from it could dramatically affect all aspect of social life and national economy.

Agriculture activity is basically a rural activity which is mostly carried by the poorest people in the country and these people are less educated, have very little technical know-how and lack of access to information. As a large majority of people live in a rural area, this implies the above conditions are responsible for poverty vis a vis inefficient agriculture practice.

But there are some good symptoms in Nepalese agriculture sector set by the interdependence between agriculture and industry. The interdependency between agriculture and industry is becoming high as the market is rising. The need of science and technology in agriculture create innovations in value of industrial products, which are used for agricultural production. Agricultural inputs like fertilizer, pesticides, diesel oil, electric motors, diesel engine, pump sets, agricultural tools and implements, tractors, power tillers etc. are supplied by the industry and oil, sugar, jute and cotton textiles and tobacco industries rely heavily on the agricultural sector. Processing industries are utilizing agricultural raw material and developing fruit canning, milk products, meat products etc.

4.3 Comparative Analysis

The matter to be considered while comparing Kautilya Arthashastra to present economy of Nepal is that there is a difference of more than twenty-five hundred years. Due to such long time differences, there have been massive changes in the society in the economic, social, political, scientific and technological field in Nepal.

Arthashastra gives us primary knowledge about economic development, and more of its plans and ideas. Kautilya does not consider that it would be appropriate for all social sectors. However, many new concepts of economic growth inspire much of Kautilya's argument. Kautilya Arthashastra is the necessity of the State to supply welfare of the people. Research analysis states that many of the recently worldwide development theories and concepts have been in practice in Asian countries. These practices are not only in the context of development but

also in the context of state or economic governance. Many communities and countries in the world are now trying to discover and explore their own system of economic development. The lessons from Arthashastra are relevant even today and can be integrated into the modern development towards achieving the ultimate aim, which is to provide value to today's people. Arthashastra gives an understanding of different focus areas, which help us, develop a long-term strategic plan and fulfill all ends from our resources. It helps to understand the ancient approach to manage and restructure and reorganize development plan and priorities. In general, the comparative analysis of economic development is as follows:

- The agriculture sector is found to be the most important sector for the economic development in the Kautilya economy. Nepalese economic development also depends on the agriculture sector which contributes thirty-five percent of the total GDP. There are many similarities between the two different time period's agriculture, animal husbandry and forest. The only difference is that the devices and modern technologies have been started in agriculture in present days.
- The base of the economic development is the determination of the certain value of the produced goods and factors of production. The contributions of Kautilya Arthashastra in the determination of the value are not inferior to the contributions of the classical economists. At present, the value has been uncontrolled in Nepal for that reason the necessity of value determination of Kautilya Arthashastra and the provision of the department of control of the same is still useful.
- The Governmental revenue is another indispensable organ for the economic development. There is a compulsion of tax for the running of the state and for economic development in Kautilya Arthashastra is still important. As mentioned in Kautilya Arthashastra, agricultural tax, business tax, economic fine, royal property and royal business are still the important sources of the income of the state.
- The proper use of the revenue is as important today as it was during the time of Kautilya. During the time of Kautilya, the misuse and expenditure of the revenue used to be considered as the crime against the state, which is accepted by present Nepal as well.
- The present society is not divided into races; it has rather been divided into caste, creed and nationalities. The citizens are given more rights and freedom. But the Kautilya economy has categorized the labour on the basis of cast.

- Although the present context of Nepal is not exactly how Kautilya described, there is still the trend of the Brahman working as priests, Kshetries joining the army, Baishyas doing trade, and Shudras doing others kinds of farming.
- Another basis for the economic development is population. We cannot imagine the economic development without human resource. There was no problem of the population during the time of Kautilya but in the present days, in the developing country like ours, the policies of population control have been adopted.
- The production and consumption capacity has been increased a lot. The industrialists produce competing internationally by using the newest technology. Similarly, the consumers are free to use the goods of international quality. Such facilities of production and consumption were not in the time of Kautilya. But we find that the development of society and nation is not possible without the production. The matters of the rights of the consumers are found.
- We find the provision of treasurer for the economic discipline in Kautilya Arthashastra. But the supreme controller of the economic aspect is considered to the king. But the autocratic supremacy of the king has not been accepted because the right to change in the rates of the tax or fee in his wish and spend in the unproductive field has not been given to the king. Still today, there is no right to do the economic impartialities to the head of the state.
- We find that there is full implementation of economic discipline in the present context in Kautilya Arthashastra because, in the present century, the sovereignty of the people is considered as the base of the Economy of the country. Accordingly, for the good governance, the representatives are elected by the people and the party having majority forms the government who determines the tax by getting approval from the people's representatives. The revenue is received in this way and it is divided in an economic way by the representatives of economic development like agriculture, industry, communication, transportation, education, health, water supply, electricity etc. that shall make the maximum benefit to the people. For the economic irregularities, there are internal auditing, bodies of Auditor General,

and at the peak is the Account Committee in the parliament in the apex and for the investigation of economic impartialities, there is Commission for Investigation of Abuse of Authority.

- There is the necessity of the governmental income and government expenditure for the economic development and for the same, the government has made the provision of the budget in the fiscal year. And the Government of Nepal has also regularly formed the annual budget from 1950 AD onwards; even in the Kautilya Arthashastra, there is mention of Annual Budget. In the Kautilya Arthashastra, there is the provision of the beginning of the fiscal year from the new moon day of the month of Shrawan and that ends at the full moon day of the month of Ashadh.
- In Kautilya Arthashastra there is no any clear device technology to measure the increment of economic development clearly. Therefore, it is very difficult to say what percentage of economic development was done during the time of Kautilya. But at present, there is the provision of measuring the increment or decrease of economic development by the cats conducted by the state and the per capita income and other new economic standard measuring device has been developed.

5. Findings and Conclusions

There is a greater difference in the time of Kautilya mentioned before 2500 years ago and present Nepal on the concept of agriculture and economic development. Various infrastructures necessary for the agriculture and economic development in Kautilya economics like agriculture, industry, trade, commerce, transportation, communication, health, education, law, rule, state etc. are described clearly. Present Nepal also uses the same policy for the agriculture and economic development. There is just the difference in the use of those policies due to the development of new technologies. The basis of the consumption of that time was different. The basis of the production, basis of exchange and the revenue to be obtained by the state and the basis of the expenditure is different. During the time, there was the value of morality in men but today that is hard to find. It has almost vanished. Today profit has been the major thing. The infrastructures to be used for the economic development like in the time of Kautilya, before 2500 years ago, are the same in present Nepal as well. During that time only agriculture, animal husbandry, industry and commerce were the infrastructures of the economic development, but in present Nepal, the economic development is being counted with 15 different categories. Some findings are in the bullet.

- Input-output studies are required for evaluating the potentials for development.
- The studies are essential for examining the relation of agriculture to other forms of economic activity.
- Increase in research activities will require planning, coordinating and supervision.
- Studies on the nature and magnitude of employment would be essential for large numbers of underemployment and unemployment exists in Nepal.
- An extensive survey of the nation would be essential for determining production potential, employment problem, and areas of priority.
- Structural studies are essential for the cost of marketing of major crops.
- Price variation should be analyzed from different areas in the country.
- Credit agencies should be studied and evaluated in terms of cost and efficiency.
- Projecting demands for products by quality and kind.
- Extension service would plan for a farmer to plan their farm operation.
- Credit agencies would insist upon the use of the improved knowledge as a condition for the loan.
- To ensure the reasonable price of products.
- Improved technology
- To fill the gaps in existing information as a basis for future.
- Cultivation allowing for capable owner with well mechanization.
- We should be conscious the all agricultural policies of Kautilya Arthashastra.

Agriculture development was the backbone of yesterday, today and it will equally for tomorrow for economic development, only the dimensions can differ. Among those dimensions, agriculture development is always necessary for the economic development.

References

- APP (1995). Agriculture Perspective Plan, Review Paper. National Planning Commission, Kathmandu, Nepal.
- Barry, A. C. (1993). Choosing Quantitative Data Analysis. *Sociological Research*, 3, 9-14, Oxford.
- Basu, R. L. and Sen R. (2008). Ancient Indian Economic Thought, Relevance for Today. Rawat Publications, India, New Delhi.
- Basu, R. L., (2011). Kautilya's Arthashastra (300 B.C.). Economic Idea, Smashwords Edition, New Delhi.
- Bhattacharai, B.R. (2012). Statement. Changing Bihar in India, Global Summit in Bihar, India.
- CBS. (1996). Nepal Living Standard Survey 1995/96, Nepal Government, Kathmandu.
- CBS. (2015). Nepal in Figures. The Government of Nepal, National Planning Commission Secretariat, Ramshah Path, Thapathli, Kathmandu.
- Chandrashekhara B., Annadurai K. and Somasundaram E. (2010). A Text Book of Agronomy. New Age International (P) Limited, New Delhi India.
- Cragg, M. (2005). Qualitative Methods (Part 3). UK National Ecosystem Assessment: Technical Report, United Nations Environment Programme, London, Routledge.
- DOA/DOAE, (2009). Agriculture Extension System. Impact Study on Farmers Group Approach Adopted In Agriculture Extension System in Nepal. Lalitpur, Nepal.
- Economic Survey, (Various Issues, 2014/15). Ministry of Finance. Kathmandu, Nepal
- Fleet, J. F. (1914). Kautilya's Arthashastra. 7th Edition, Mysore Printing and Publishing House, Mysore.
- FAO (2003). FAO of the United Nations Development Programme. Nepal Agricultural Policy and Strategies for Poverty Alleviation and Food Security, Kathmandu, Nepal.
- Gardner, B. (2000, March 15). Economic Growth and Low Income Agriculture. *American Journal of Agricultural Economics*, 82 (5).
- Gyawali B. (2012). Public Revenue in Kautilya Arthashastra and Sukra Niti, Ph.D. Dissertation, Nepal Sanskrit University, Nepal.
- Hayami, Y. (2001). Development Economics: From Poverty to the Wealth of Nations. Third Edition, New York: Oxford University Press.

Hayami, Y. Ruttan, V. W. (1985). *Agricultural Development: An International Perspective*. 2nd Edition, Johns Hopkins University Press, Baltimore.

Hazell, P. B., & Haggblade, S. (1990). *Rural-urban growth linkages in India* (Vol. 430). World Bank Publications.

Interim Plan (2007). *Three Year Plan Approach Paper*. National Planning Commission, Government of Nepal.

Interim Plan, (2010). *Three Year Plan Approach Paper*, National Planning Commission. Government of Nepal.

Jayasawal, K P. (1978). *Hindu Polity*, Fifth Edition, Bangalore: The Bangalore Printing and Publishing Company Ltd.

Jha, K. N. and Jha, L. K. (1997). *Chanakya: The Pioneer Economist*. APH Publishing Corporation, New Delhi.

Johnson, D. G., Mellor J. W. (1961). *American Economic Review*. The Role of Agriculture in Economic Development, 51 (4).

Kautilya Arthashastra (1997). *Kautilya ko Arthashastra* (Sastri Ganga Prasad Trans.), Dilli: Chatursen Gupta, Mahabharat Office.

Kautilya Arthashastra (2009). *Kautilya ko Arthashastra* (Geraula Bachaspati Trans.), Baranashi: Chaukhamba Bidhyabhavan.

Kautilya Arthashastra (2024). *Kautilyako Arthashastra* (Aryal Keshav Raj Trans.), Kathmandu: Nepal Rajakiya Pragya Pratisthan.

Kangle, R. P. (1972). *The Kautiliya Arthashastra: Part II. An English Translation with Critical and Explanatory Notes*, 2nd Edition, Motilal Banarsidass Publishers Pvt. Ltd, Delhi.

Kangle, R. P., (1986). *The Kautiliya Arthashastra: Part III--A Study*. Motilal Banarsidass Publishers Pvt Ltd, Delhi.

Little, I.M.D. (1982). *Economic Development: Theory, Policy, and International Relations*. New York: Basic Books.

Mahabharata, (2003). *Kautilya Arthashastra Book 1-5*, Gitapress, Gorakhpur.

Mellor, J. W. (1961). *The Economics of Agricultural Development*. Ithaca, N.Y.: Cornell University Press.

Mishra, Puri (2010). *Theory and Practice, Economics of Development and Planning*, Himalaya Publishing House, p. 127–136.

MoLRPEP, (1958). *Land Reform in Nepal*. Ministry of Land Reform, Panchayat and Economic Planning Kathmandu, Nepal.

MoLRPEP. (1973). Land Reform in Nepal. Successful of Kathmandu, Kathmandu, Nepal.

MoAC, (2002). Nepal Fertilizer Policy 2002. Ministry of Agriculture and Cooperative, Government of Nepal, Kathmandu.

MoAC, (2006). Agriculture Perspective Plan. Ministry of Agriculture and Cooperatives, Study Report, Kathmandu.

MoF, (Various Issues). Economic Survey, Government of Nepal, Ministry of Finance, Unofficial Translation.

Muller, Max (1859). History of Ancient Sanskrit Literature. W.W. Norton and Company, New York and London.

NARC, (2011). National Agricultural Research and Service Center's. Strategic Vision for Agricultural Research, 23, Lalitpur, Nepal.

Nene Y.L. (2002). Kautilya's Arthashastra. Modern Agronomic Concepts and Practices, *Asian Agri-History* 6(3), India.

NPC, (2013/14-14/15). Planned Development in Nepal. National Planning Commission, Kathmandu, Nepal.

NPC, (2016/17-18/19). Planned Development in Nepal. National Planning Commission, Kathmandu, Nepal.

NRB, (2015). Current Macroeconomic Situation of Nepal, Nepal Rastra Bank, Kathmandu.

Panta, B., and Palikhe, D. (2012). The Official News Letter of IIDS. Agricultural Performance and Food Security in Nepal: Constraint and Challenges, *Sambat*, 31, Mandikatar Kathmandu

Pyakuryal, B. (2014). Nepal's Development Tragedy: Threats and Possibilities. Published by Fine Print, Bishalnagar, Kathmandu.

Rangarajan, L. N. (1992). Kautilya--The Arthashastra. Edited, Rearranged, Translated and Introduced, Penguin Books India, New Delhi.

Regmi, M.C. (1992). Land Tenure and Taxation in Nepal. Dilli Bazar Press, Kathmandu, Nepal.

Shamasastri, R. (1915). Kautilya Arthashastra. Translated in English, Bangalore: Government Press, India.

Shamasastri, R, (2009). Kautilya's Arthashastra. Jaico Publishing House, India.

Sharma, S. N. (1967). Kautilya Arthashastra (Aryal K. R. Trans.). Nepali Translation, Kathmandu: Royal Nepal Academy.

Singer, H. (1979). Policy Implications of the Lima Target. *Industry and Development* 3: 17–23.

Skare, M (2013). The Missing Link: From Kautilya's The Arthashastra to Modern Economics, The Journal of Philosophical Economics, Volume VI Issue 2 Spring 2013.

Timmer, (1992). Agriculture and Economic Development Revisited. Agricultural Systems Paper, p. 1-35 in, edited by P.S. Teng and F.W.T. Penning de Vries 18(5). London: Elsevier.

Timmons J. F, (1965). Agriculture Development through Modifying Land Tenure Arrangements. Iowa Department of Economics, Iowa State University.

Trautmann T. R., (1971). Kautilya and the Arthashastra - A Statistical Investigation of the Authorship and the Evolution of the Text. Leiden, E J Brill.

TYIP, (2007/10). Three Year Interim Plan, National Planning Commission, Government of Nepal.

TYIP, (2010/11-12/13). Three Year Plan Approach Paper. National Planning Commission, Government of Nepal.

Yang, D. T., X. Zhu. (2004). Modernization of Agriculture and Long-run Growth. Basil