KUVEMPU UNIVERSITY
THE SOCIAL SCIENCE DIALOGUE

Peer Reviewed Open Access e-Journal

Evaluation of Agricultural Investment in Comparison to Total Investment in Yemen

Ismail Mohammed Alobre, Adnan Abdulrahman Naef Farhan, K.B. Dhananjaya

Newsroom diversity, a far cry in Kannada Journalism

Dr. Sathyaprakash M. R, Dr. B. K. Ravi

Contesting Contemporary Discourses: Reading of Arundhati Roy's The Greater Common Good and Amitav Ghosh's Countdown

Ibrahim Khalilulla M

ಸಣ್ಣ ಪತ್ರಿಕೆಗಳ ಮೇಲೆ ಕೋವಿಡ್–19 ಪ್ರಭಾವ

ಪದ್ಮಾವತಿ ಕೆ., ಸತೀಶ್ ಕುಮಾರ್.

ವಾಕ್–ಶ್ರವಣ ದೋಷವುಳ್ಳ ಮಕ್ಕಳ ಸಬಲೀಕರಣದಲ್ಲಿ ಮಾಧ್ಯಮದ ಪಾತ್ರ –ತುಮಕೂರು ಜಿಲ್ಲೆಯ ಅಧ್ಯಯನ

ಶ್ವೇತ ಎಂ. ಪಿ., ಪುಟ್ಟಸ್ವಾಮಿ ಸಿ. ಕೆ.

VOLUME-3
ISSUE-1
JAN-JUN 2023

Evaluation of Agricultural Investment in Comparison to Total Investment in Yemen

Ismail Mohammed Alobre
Research scholar in the Department of Economics, Kuvempu University, Shankaraghatta, Karnataka State-India
Email id: ismailalobri@gmail.com

Adnan Abdulrahman Naef Farhan
Assistant Professor. Queen Arwa University, Yemen Email id: adnanalomari1@gmail.com

K.B. Dhananjaya
Professor in the Department of Economics,Principal Sahyadri Arts College, Kuvempu University, Shivamogga, Karnataka State-India, Email id: dhananjay.shimoga@gmail.com

Abstract: *The purpose of this study is to identify the evaluation of agricultural investment to the total investment in Yemen during the period 2009 - 2019 by collecting secondary data in the General Statistics Book and the Agricultural Statistics Book. The data were analyzed using the SPSS-26 statistical program with different tests such as time series test, correlation, regression, percentages, averages, and least-squares method. The results showed that the average total investment during the study period amounted to 117,527,499 billion riyals. While the average agricultural investment was about 1,378,155 billion riyals. It was found that agricultural investment had a downward trend during the study period, and the highest percentage of agricultural investment was in 2015 by about 3.8% compared to 2017 and 2019 in the absence of agricultural investment. The data showed that the number of projects and job opportunities took a downward trend, affected by the decline in the investment value during the study period (2009 – 2019).*

Keywords: Investment, Total Investment, Agricultural Investment, Job Opportunities, Number of Projects.

INTRODUCTION

The agricultural sector is one of the main sectors in the Yemeni economy, as it contributes to the formation of the national product by a large percentage and occupies an important position among other sectors.(Al-Saor, 2018) It is one of the most important sectors of the economic structure in Yemen despite few agricultural investments directed to it from the total national investments.

Investment is a positive economic activity that increases fixed and working capitals, and among the types of investment ininfrastructure investment, such as the reclamation of agricultural land, because it is one of the most important factors determining the possibilities of increase in agricultural production.(Ali . S. Shukr, 2013) And it depends on the extent to which economic development and its objectives are achieved to a large extent to provide the necessary resources for the implementation of investments. Investment is defined as the new real addition to the value of assets from real funds, machinery, and capital equipment in that country(Saleh, 2004).

1

Investments are a tool for implementing economic and social development plans, and one of the ways to implement agricultural development programs in Yemen, where the success of agricultural development policies depends primarily on the volume and efficiency of investments between the various economic sectors in the country because investments have an important and effective role in bringing about structural changes for the national economy.(Ismail, Fattah, & Mohamed, 2016)One of the main problems is the modern Yemeni economy and economic growth in agricultural production, where agricultural investment operations play an important role in improving agricultural productivity and the standard of living of agricultural families.(Nabievaa, 2015) The process of investing in the agricultural sector means adding new productive projects that contribute to the absorption of labor and reduce the unemployment problem.

Where agriculture is the main source of income for 73.5% of the population of Yemen, whether directly or indirectly, such as services, handcrafts, and industries that serve the rural and urban population.(Yasmeen M Alwan, March 2018) However, agricultural investment in Yemen is not a priority in the economic development strategies and investment plans drawn up by the state, and what is invested in the agricultural sector is limited.

LITERATURE REVIEW

Agricultural investment has a positive causal relationship and an impact on economic growth, and it is a catalyst for economic growth, but there are no long-term or short-term causal relationships between agricultural investments and other investments, as shown in a study (Samir Abdelhafidh, 2019,) on domestic investment in the agricultural sector and growth the economist in Tunisia when studying the relationship between agricultural investment and economic growth. And there are many other studies on agricultural investment in the study (Al-Saor, 2018), which focused in its study on the impact of agricultural investment and mechanical technology on the growth of agricultural output in Iraq. Accordingly, the decline in agricultural production and investment allocations, and the lack of an appropriate price and financial policy that can attract the necessary funds to invest in the agricultural sector has made the growth rate of reclaimed areas in Iraq negative. And a study (Ismail, Fattah, & Mohamed, 2016), which focused on an economic study of the current and future status of agricultural investment in Egypt.

This study found a decrease in the volume of investments directed to the agricultural sector, and that the value of an agricultural investment for the public sector at current prices decreases annually, a statistically significant decrease in nationality, the value of national imports, the value of agricultural loans, value of agricultural savings, interest rate, cropped area, cultivated area, reclaimed area. While the study (Yusuff, 2015) dealt with the analysis of foreign direct investment in the agricultural sector and its contribution to the gross domestic product in Nigeria. Accordingly, the benefits of foreign direct investment (FDI) as a means of technology transfer, the flow of foreign direct investment into the agricultural sector does not follow a regular pattern, and the sector's contribution to GDP is directly related to the influx of foreign direct investment. In a study(Usama Ben-Hamed, 2014) for agricultural investment in Libya, the study aimed to estimate the function of agricultural investment in Libya at current prices and to identify the most important elements that have effects on agricultural investment. The estimated equation showed a negative relationship between interest rate and agricultural investment, and a positive relationship between agricultural investment and agricultural investment allocations, one of the most important requirements for agricultural investment is a developed and integrated investment environment to reduce the degrees of risks that may face agricultural investment in order to ensure continuity.

As shown in the previous literature, agricultural investment is one of the factors affecting economic growth, and that it needs an encouraging policy and strategy to create a good investment environment. And the determining factors for agricultural investment are the value of agricultural income, the value of agricultural exports, the value of agricultural imports, the value of national exports, the value of national imports, the value

2

of agricultural loans, value of agricultural savings, interest rate, cropped area, cultivated area, and reclaimed area.

Objectives
1- To evaluate the percentage of agricultural investment contribution to the total investment.
2- To know the percentage of agricultural projects out of the total number of investment projects.

RESEARCH DESIGN

The main method for evaluating the contribution of agricultural investment to the total investment in Yemen is the method of collecting annual time series data for the period between 2009 and 2019, where data were collected from various secondary sources (The Central Statistical Organization at the Ministry of Planning and Development, the General Administration of Agricultural Statistics and Information at the Ministry of Agriculture and Irrigation).To study the value of the agricultural investment and the value of the total investment and the number of projects and job opportunities for each of them using the statistical analysis using the SPSS-26 program to calculate the percentage of development and evaluation of the contribution of agricultural investment to the total investment, regression, correlation, F-test, and averages. It is consideredthe first research to study the proportion of agricultural investment's contribution to the total investment in Yemen, to develop appropriate recommendations for decision-makers to move towards developing strategic and encouraging policies for investment in the agricultural sector.

RESULTS AND DISCUSSION

First: The evolution of the value of the total investment, agricultural investment, and the percentage of agricultural investment contribution during the period (2009 - 2019).

1- Total investment

There was a large fluctuation in investment during the period (2009 - 2019), as estimates in Table (1) indicate that the highest percentage of the total investment amounted to about 314,895,224 billion riyals in 2009 with a development rate of 100%, but it fluctuated in the years 2010, 2011, 2012, 2013 2014, 2015, 2017, 2018, between rising and fall, in varying proportions, between 57.8% - 10.5%.While there was a significant and unexpected decline in the investment rate in 2016 and 2019, the investment in them amounted to (16,391,039 and 11,954,676) billion riyals, respectively, with a growth rate of (5.2% and 3.8%).

By calculating the equation of the general time trend of the development of total aggregate investment during the period 2009 - 2019, the following equation shows that:

$Y_t = 30,220,215.501 - 14,946.717X_t$

(1.639)(-1.686) R= 0.490 R^2= 0.240   F= 2.843   Sig= 0.126

Where Y_t = the estimated value of the total investment during the period 2009 - 2019.

X_t = time 1, 2, ..., 10.

The equation shows that there is no morale in the total investment during the study period 2009-2019, with a value of (14,946.717) thousand riyals, which represents about 1.2% of the average value of the total investment during the study period, which is estimated at (117,527,499) billion riyals.

2- Agricultural investment

Estimates of the amount of agricultural investment in the table (1) indicate a decline in it with slight fluctuation in some years during the study period 2009-2019, where the highest rate was in 2009 about (5,678,964) billion riyals with a development rate of 100%, which is equivalent to the amount of investment in six years 2011, 2012, 2013, 2014, 2015, 2018 of the study periods. While the lowest percentage of investment in 2016 was about (27,412) thousand riyals, with a growth rate of 0.5%. While there was no investment during

3

2017 and 2019, this is due to the continuation of the war in the country since 2015.

By calculating the equation of the general time trend of the development of the value agricultural investment during the period 2009 - 2019, the following equation shows that:

$Y_t = 801,711.417 – 397.385X_t$

(2.773)(-2.768) R= 0.678 R^2= 0.460   F= 7.663   Sig= 0.022

Where Yt = the estimated value of the agricultural investment during the period 2009 - 2019.

X_t = time 1, 2, ..., 10.

Estimates in the equation indicate a significant presence in agricultural investment during the study period 2009-2019, with a value of (397.385) riyals, and the significance of this estimate was proven, which represents about 2.8% of the average agricultural investment during the study period, estimated at (1,378,155) billion riyals.

3- The percentage of agricultural investment contribution to the total investment

The percentage of the contribution of agricultural investment to the total investment indicates that it was a low percentage compared to the size of the total investments and also fluctuated. Moreover, in some years, the agricultural investment was non-existent in some years of the study 2009 - 2019 where the data in the table (1) indicates that the highest percentage of the contribution of agricultural investment out of the total Investment was 3.8% of the total investment percentage in 2015 and the lowest percentage in 2011 was 0.1%. While the contribution of agricultural investment to the total investment volume was nil in 2017, 2018, 2019.

Table (1) shows the percentage change in total investment and agricultural investment and the percentage of agricultural investment's contribution to total investment in Yemen during the period(2009 -2019).

Value (000 YR)

Statement	Total investment	Change rate	Agriculture investment	Change rate	Agricultural investment as a percentage of total investment
2009	314,895,224	100	5,678,964	100	1.8
2010	129,802,378	41.2	3,776,838	66.5	2.9
2011	181,916,270	57.8	142,176	2.5	0.1
2012	71,006,062	22.5	351,434	6.2	0.5
2013	75,210,518	23.9	660,583	11.6	0.9
2014	176,283,654	56.0	3,111,850	54.8	1.8
2015	36,160,022	11.5	1,372,268	24.2	3.8
2016	16,391,039	5.2	27,412	0.5	0.2
2017	32,927,868	10.5	0	0	0.0
2018	246,254,783	78.2	38,179	0.7	0.0
2019	11,954,676	3.8	0	0	0.0
Average	117,527,499	37.3	1,378,155	24.1	1.1

Source: The Central Statistical Organization, Republic of Yemen, Ministry of Planning, and International Cooperation, Annual Statistical book (2009-2019).

Second: The evolution of the number of projects in total investment and agricultural investment and the percentage of agricultural projects out of the total during the period (2009 - 2019):

1- Total number of projects in total investment

The data in table (2) indicates the increasing decrease in the total number of investment projects during the study years 2009-2019, as it was found that the highest percentage of the number of investment projects was in the year 2009 with 272 investment projects with a development rate of 100%, and then began to decline in the following year until it reached below as a percentage of the number of projects in 2019, where the number of projects in this year is estimated at 29 projects, with a change rate of 10.7%, which is the lowest

4

percentage during the study period and due to several reasons, the most important of which is the continuation of the ongoing war in Yemen.

By calculating the general time trend average of the development of the total number of projects that were invested in during the period 2009-2019, the following equation shows that:

$Y_t = 32,933.018 – 16.300X_t$

(3.849)(-3.836) R= 0.788 R^2= 0.621   F= 14.718   Sig= 0.004

Where Y_t = the estimated value of the number of job opportunities in agricultural investment during the period 2009 - 2019.

X_t = time 1, 2, ..., 10.

The estimates by the equation show that there is a significant presence in the number of projects in the total investment during the study period 2009 - 2019. The number of 16.300 projects was confirmed, where the significance of this estimate was proven, which represents about 15.5% of the average number of projects in the total investment during the study period, estimated at 105 investment projects.

2- The number of agricultural projects out of the total investment

The data in table (2) showed that agricultural projects decreased significantly during the study period, where the highest percentage of the number of projects was in 2009 with 35 agricultural projects with a development rate of 100%, but it continued to decline to zero in the number of agricultural projects in 2017, 2019 there is no an agricultural project.

By calculating the general time trend equation for the development of the number of projects in agricultural investment during the period 2009-2019, the following equation shows that:

$Y_t = 4583.636 – 2.273X_t$

(3.014)(-3.010) R= 0.708 R^2= 0.502   F= 9.061   Sig= 0.015

Where Y_t = the estimated value of the number of projects in agricultural investment during the period 2009 - 2019.

X_t = time 1, 2, ..., 10.

Estimates in the equation indicate a significant increase in the number of projects in agricultural investment during the study period 2009-2019, with a value of 2.273 projects, which represents about 37% of the average number of projects in agricultural investment during the study period, which is estimated at 6 agricultural projects.

3- The percentage of agricultural projects out of the total projects

The data in Table (2) indicate that the average percentage of agricultural projects out of the total projects during the period from 2009 - 2019 amounted to 4.5%, where it was the highest percentage in 2015 with a rate of 13.2%. While the lowest percentage of agricultural projects was in 2014 by about 1%, while it was absent in 2017 and 2019, and this indicates a lack of investment in the agricultural field as a result of many reasons, including the conflict in Yemen, and also the lack of interest from the government in the agricultural sector.

Table (2) shows the development in the total number of projectsand agricultural projects and how much the percentage of the agricultural project of the total in Yemen during the period(2009 – 2019).

Statement	The total number of investment projects	Change rate	Number of agricultural projects	Change rate	The percentage of agricultural projects from the college
2009	272	100	35	100	12.9
2010	164	60.3	17	48.6	10.4
2011	97	35.7	2	5.7	2.1

5

2012	95	34.9	4	11.4	4.2
2013	142	52.2	4	11.4	2.8
2014	104	38.2	1	2.9	1.0
2015	38	14.0	5	14.3	13.2
2016	55	20.2	1	2.9	1.8
2017	75	27.6	0	0	0.0
2018	82	30.1	1	2.9	1.2
2019	29	10.7	0	0	0.0
Average	105	38.5	6	18.2	4.5

Source: The Central Statistical Organization, Republic of Yemen, Ministry of Planning, and International Cooperation, Annual Statistical book (2009-2019).

Third: The evolution of the total agricultural and non-agricultural employment opportunities in investment and the percentage of agricultural opportunities out of the total opportunities during the period (2009 – 2019):

1- Total job opportunities in total investment

Estimates indicate a decrease with a slight fluctuation in the total job opportunities in investment projects during the study period 2009-2019 by a large percentage, as it appears in the table (3) that the highest percentage of job opportunities was in 2009 with many 10,364, with a development rate of 100% and then began to decline in the following year until it reached the lowest percentage in the total number of job opportunities in 2019, where the number of job opportunities is estimated at 908, with a change of 8.8%.

By calculating the general time trend equation for the development of the number of projects in the total investment during the period 2009 - 2019, the following equation shows that:

$Y_t = 1,281,200.145 – 634.355X_t$

(3.758) (-3.748)R= 0.781 R^2= 0.609   F= 14.045   Sig= 0.005

Where Y_t = the estimated value of the number of job opportunities in the total investment during the period 2009 - 2019.

X_t = time 1, 2, ..., 10.

It is clear from the estimations in the equation that there is a significant presence in the number of projects in the total investment during the study period 2009 - 2019. The number of jobs reached 634.355, and its morale was proven in this estimate, which represents about 17.6% of the average job opportunities in the total investment during the study period, and the average amount is about 3,610 an opportunity.

2- The number of job opportunities in agricultural investment

While the data in Table (3) showed that the number of job opportunities also decreased during the study period 2009-2019, where the highest percentage of the number of agricultural job opportunities was in 2009 with 1,193 job opportunities, with an evolution rate of 100%, but it continued to decline to zero in the number of opportunities in the two years 2017, 2019 there is no agricultural job opportunity.

By calculating the average general time trend for the development of the number of job opportunities in agricultural investment during the period 2009 - 2019, the following equation shows that:

$Y_t = 138,556.291 – 68.709X_t$

(2.541)(-2.538) R= 0.646 R^2= 0.417   F= 6.439   Sig= 0.032

Where Y_t = the estimated value of the number of job opportunities in agricultural investment during the period 2009 - 2019.

X_t = time 1, 2, ..., 10.

Estimates in the equation indicate a significant presence in the number of projects in agricultural investment during the study period 2009-2019, with many 68.709 job opportunities, and the morality of this estimate was proven, which represents about 39% of the average job opportunities in agricultural investment during the study period, estimated at 176 opportunities.

3- The percentage of agricultural job opportunities out of the total investment opportunities.

The data in Table (3) shows that the average percentage of agricultural job opportunities out of the general total of opportunities during the period from 2009 - 2019 amounted to 3.1%, with the highest percentage in 2015 reaching 11.5%. While the lowest percentage of agricultural projects in 2018 was 0.5%, while it was absent in 2017 and 2019, due to the lack of investment in the agricultural field due to many reasons, including the conflict in Yemen, and also the government's lack of interest in the agricultural sector. This leads to a rise in unemployment and exacerbates the problem further.

Table (3) shows the development in the total job opportunities and agricultural job opportunities and the percentage of agricultural job opportunities in the total job in Yemen during the period (2009 – 2019).

Statement	Total job opportunities	Change rate	Agricultural job opportunities	Change rate	Percentage of job opportunities in the agricultural sector of the total
2009	10,364	100	1,193	100	11.5
2010	4,523	43.6	363	30.4	8.0
2011	4,350	42.0	20	1.7	0.5
2012	3,165	30.5	89	7.5	2.8
2013	4,006	38.7	53	4.4	1.3
2014	5,437	52.5	110	9.2	2.0
2015	1,248	12.0	90	7.5	7.2
2016	1,450	14.0	10	0.8	0.7
2017	2,209	21.3	0	0	0.0
2018	2,051	19.8	10	0.8	0.5
2019	908	8.8	0	0	0.0
Average	3,610	34.8	176	14.8	3.1

Source: The Central Statistical Organization, Republic of Yemen, Ministry of Planning, and International Cooperation, Annual Statistical book (2009-2019).

Findings
- The study indicates that the contribution of agricultural investment is low compared to the total investment, but it decreased more during the study period and was absent in some years.
- The study also indicates that the number of agricultural projects is very few compared to the total number of projects, and its decline increased further in the last years of the study period.
- The percentage of job opportunities in agricultural projects fluctuates and did not exist in some years due to the small number of agricultural projects.
- The study concluded that the political instability and the war in Yemen had a negative impact on investment in general and agricultural investment in particular.

Suggestions
- Supporting and encouraging the local private sector for agricultural investment with low-interest and long-term loans, and setting clear agricultural policies towards investment, which are stable and continuous in the short and long term because of this effective impact in contributing to overall investment and economic development.

- Making administrative and regulatory procedures and legislation encouraging local and foreign investment, and setting up a program capable of attracting investment.

CONCLUSION

From the interpretation of the above data, we conclude that agriculture plays a major role in the economic development of Yemen. It has already contributed to the economic prosperity of the developed countries as well as its role in the economic development of the less developed countries in providing income to farming families and employment opportunities to the rural population on a large scale in the developing country and the less developed countries(Ahmad Jawid muradi, 2018).However, it was found that agricultural investment trended downward during the study period 2009-2019, and the highest percentage of agricultural investment in 2015 was about 3.8% of the total investment, and the lowest percentage of agricultural investment in 2011 was about 0.1%. While in 2017 and 2019, agricultural investment was completely non-existent. The above explanations show that the average total investment during the study period amounted to 117,527,499 billion riyals. While the average agricultural investment was about 1,378,155 billion riyals.

Note that the above explanations for the number of projects and job opportunities in investment during the study period 2009 - 2019 do not differ from the percentage of agricultural investment in the trend towards a decrease in the number of projects and agricultural job opportunities. The highest percentage of the number of agricultural projects was in 2015 about 13.2% of the total number of projects, and the highest percentage of agricultural job opportunities in 2009 at 11.5% of the total job opportunities in the total investment.

REFERENCES

Ahmad Jawid muradi, I. B. (2018). The contribution of Agriculture Sector in the Economy of Afghanistan. *International Journal of Scientific Research and Management (IJSRM)*, Volume/06/Issue/10/Pages/EM-2018-750-755.

Ali . S. Shukr, E. .. (2013). Economics Analysis of the most important influencing investment allocations for agricultural reclamation in Iraq for the period (1990-2010). *Diyala Journal of Agricultural Sciences*, 264 - 274.

Al-Saor, L. B. (2018). The impact of agricultural investment mechanical and technology in agricultural turaloutput growth in Iraq for the period (1990 - 2010). *l College. Univ Kut-A* , 27 - 35.

Central Statistical Organization, R. o. (2019). *Annual Statistical book.* Sana'a: Central Statistical Organization.

General Administration of Agricultural Statistics, R. o. (2019). *Agricultural Statistics Book.* Sana'a: Ministry of Agriculture and Irrigation.

Ismail, T. H., Fattah, J. A., & Mohamed, D. H. (2016). Economic Study of the Current Situation and Future Agricultural Investments in Egypt. *Assiut J. Agric. Sci., (47) No. (5)*, (259-272) .

Nabievaa, L. a. (2015). Return On Investments In The Formation Of Fixed Capital Assets In Agriculture Of The Republic Of Tatarstan. *Procedia Economics and Finance 24*, 457 - 463.

Saleh, k. k. (2004). *economic study on the optimal use of most important agricultural productive resources in the republic of yemen, under the economic changes.* cairo - egypt: department of agricultural economics - faculty agriculture - cairo university.

Samir Abdelhafidh, S. B. (2019,). Domestic Investment In The Agricultural Sector And Economic Growth In Tunisia. *International Journal of Food and Agricultural Economics (IJFAEC)*, pp. 141 -157.

Usama Ben-Hamed, a. M. (2014). The Agricultural Investment in Libya. *International Conference on Agricultural, Ecological and Medical Sciences* (pp. 21 - 23). London : http://dx.doi.org/10.15242/IICBE.C714078.

Yasmeen M Alwan, S. Y. (March 2018). The Development of the Value of Agricultural Production – A Case Study of Yemen. *International Journal of Engineering Technology Science and Research*, 42.

Yusuff, M. A. (2015). Analysis of Foreign Direct Investment on Agricultural Sector and Its Contribution to GDP in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 94-100.

*****