
**THE INFLUENCE OF IRRIGATION AGRICULTURE ON POVERTY ALLEVIATION IN
URBAN CENTRES, A CASE STUDY OF
JINJA NORTH, JINJA CITY**

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ABSTRACT

The study aimed at the influence of irrigation agriculture on poverty alleviation in urban centres and it was guided by the following objectives; To examine the role of irrigation on poverty alleviation, to examine the linkages and pathways through which irrigation contributes to poverty reduction and to examine the magnitude of anti-poverty impacts of irrigation. The study employed a descriptive comparative/correlation, an ex-post facto and cross-sectional survey designs. It is descriptive comparative survey since the researcher will describe and compare levels of success of a big sample of Enterprises, using demographics such as gender, age, education and workers; correlational in a bid to establish the influence of irrigation on poverty alleviation in urban centres. According to the findings, irrigation leads to increased productivity/high yields (33%). 22% of the respondents agreed that irrigation led to increased incomes of the farmers. This is due to the high levels of production brought about by irrigation. 11% of the respondents also agreed that irrigation leads to employment opportunities to the poor local people and thus reducing the level of poverty while 33% of the other respondents agreed that irrigation leads to food security there by saving and reducing the rate of irrigation in the netizens. Invest in irrigation; ongoing irrigation development will be essential to food production in the future.

Agriculture reliant on rainfall won't be able to meet the rising demand to feed an expanding population. In Asia, the Green Revolution significantly increased food security and productivity. For instance, India has not experienced a significant famine since the early 1960s. In this instance, investing in irrigation was a crucial component of the plan to boost food output and keep food crop prices steady.

Key words: irrigation, agriculture, poverty and urban centres

Background of the study

In the last 50 years, irrigated agriculture has grown dramatically. Over 273 million ha were irrigated worldwide in 2001, up from 139 million ha in 1961. With India, China, and Pakistan making up about 48% of the total irrigated land, much of this growth has occurred in emerging Asia (Allan et al., 2023).

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Problem statement

Numerous studies on the impact of irrigation on crop yields have been done over time, particularly in China and Pakistan, among other countries. Irrigation, nevertheless, plays a significant influence in reducing poverty among individuals, especially those living in urban centers, although this connection was neglected and left out of their study. It is therefore vital that the investigator perform a study on the impact of irrigation on the reduction of

impoverishment in urban areas.

Specific objectives

The study was guided by the following specific objectives

- 1. To examine the role of irrigation on poverty alleviation*
- 2. To examine the linkages and pathways through which irrigation contributes to poverty reduction.*
- 3. To examine the magnitude of anti-poverty impacts of irrigation*

Research questions

The study sought to answer the following questions

- 1. What is the role of irrigation in poverty alleviation?*
- 2. What are the linkages and pathways through which irrigation contributes to poverty reduction?*
- 3. What is the magnitude of anti-poverty impacts of irrigation?*

Methodology

Study Design

The study employed a descriptive comparative/correlation, an ex-post facto and cross-sectional survey designs. It is descriptive comparative survey since the researcher will describe and compare levels of success of a big sample of Enterprises, using demographics such as gender, age, education and workers; correlational in a bid to establish the influence of irrigation on poverty

alleviation in urban centres.

Study population

According to Polit and Hungler (1999), the population is the sum or totality of everything, subjects, or individuals who meet a given set of requirements. 62 participants in this study represented a variety of professions. For instance, neighborhood residents, entrepreneurs, farmers, and ministry representatives. Ages 15 and up are covered in the criteria for admission, which outline the qualities that members of the population must have in order to be included in the study by Polit & Hungler (1999).

Sample size

Sample is a subgroup in a population which can be used as a representative of the population to derive inferences about the Guidance of that population (Kingori, 2004). According to Mulusa (1988), at least 30% of the total population is representative. Therefore, the sample size for this study shall be 18 respondents.

Table 1. targeted population, sample size and sampling techniques

<i>Respondents</i>	<i>Target Population</i>	<i>Sample size</i>	<i>Sampling technique</i>
<i>Local farmers</i>	<i>25</i>	<i>7</i>	<i>Purposive</i>
<i>Community members</i>	<i>20</i>	<i>6</i>	<i>Simple random</i>
<i>Business owners</i>	<i>15</i>	<i>4</i>	<i>Snow ball</i>
<i>Ministry officials</i>	<i>2</i>	<i>1</i>	<i>Simple random</i>
<i>Total population</i>	<i>62</i>	<i>18</i>	

Source: Researcher.

Sampling methods

Sampling techniques can be categorized into two categories, as defined by Saunders et al. (2009): probability or an accurate representation and random or judgmental sampling. According to Surbhi (2016), probabilistic sampling is a sampling technique in which each member of the population has a predetermined and equal chance of being included in the sample. Non-probability sampling units, on the other hand, are chosen at the researcher's discretion using human judgment with no theoretical foundation for determining the demographics of the population. The investigator will employ both techniques.

Data Analysis

The study's findings, which were derived from both primary and secondary data, were displayed, evaluated, addressed, and analyzed in a coordinated way using SPSS to create a unified study report (Nelson et al., 2022). Through the use of surveys, quantifiable data such as means, ratios, and proportions were produced. First, survey data was reviewed and modified to remove any unnecessary information that failed to provide enough ideas for the study due to items being misunderstood or having gaps.

Charts, graphs, and tables were used to convey qualitative as well as quantitative information in a comprehensive format.

RESULTS

Demographic Analysis

The collected data was analyzed using quantitative and qualitative techniques.

Calculations of a proportion in the form of percentages and drawing of conclusions from the contents of the questionnaires were done. The study sought to establish personal data from twenty-five (25) local farmers, twenty (20) community members plus fifteen (15) business owners and two (2) ministry officials.

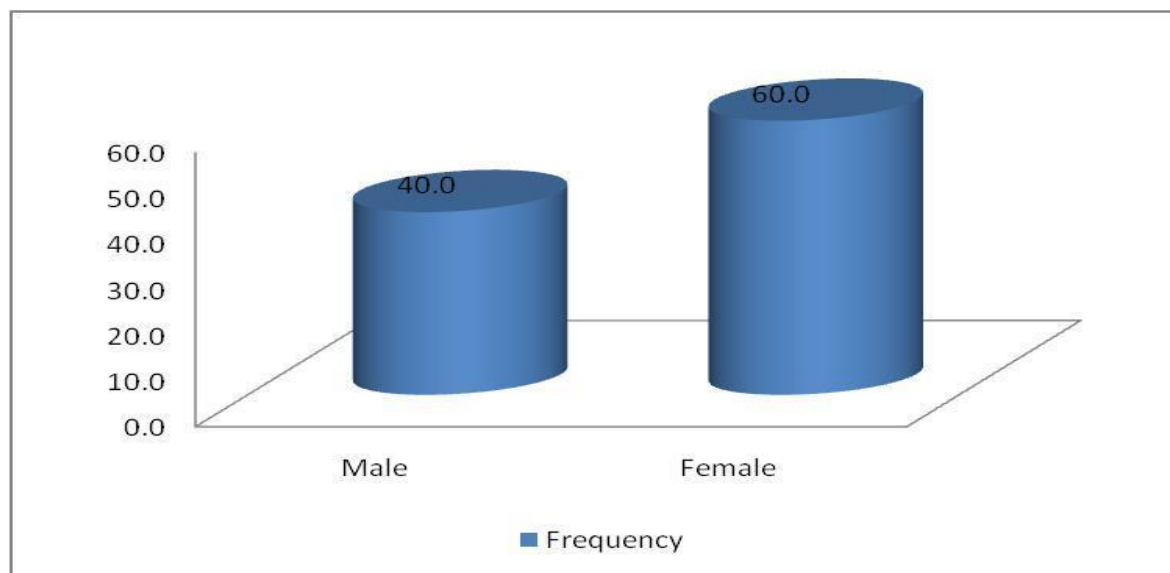
Table 2: Shows the Study Sample

<i>Respondents</i>	<i>Target Population</i>	<i>Sample size</i>
<i>Local farmers</i>	25	7
<i>Community members</i>	20	6
<i>Business owners</i>	15	4
<i>Ministry officials</i>	2	1
<i>Total population</i>	62	18

Source: primary data 2022

Respondents Gender

In the questionnaires, students were asked to state their gender. The findings are shown in Figure 1: Figure1 showing gender of respondents



Source: Primary Data

The findings above from the field data indicate that the majority of the respondents were male (60%) while the remaining percentage (40%) was female.

Academic Qualification of Respondents

Respondents were asked to indicate their academic qualification

Years of Experience in agricultural activities

The Respondents were asked to indicate the number of years they had spent while practicing agricultural activities. Their responses are as indicated in Figure 2 below;

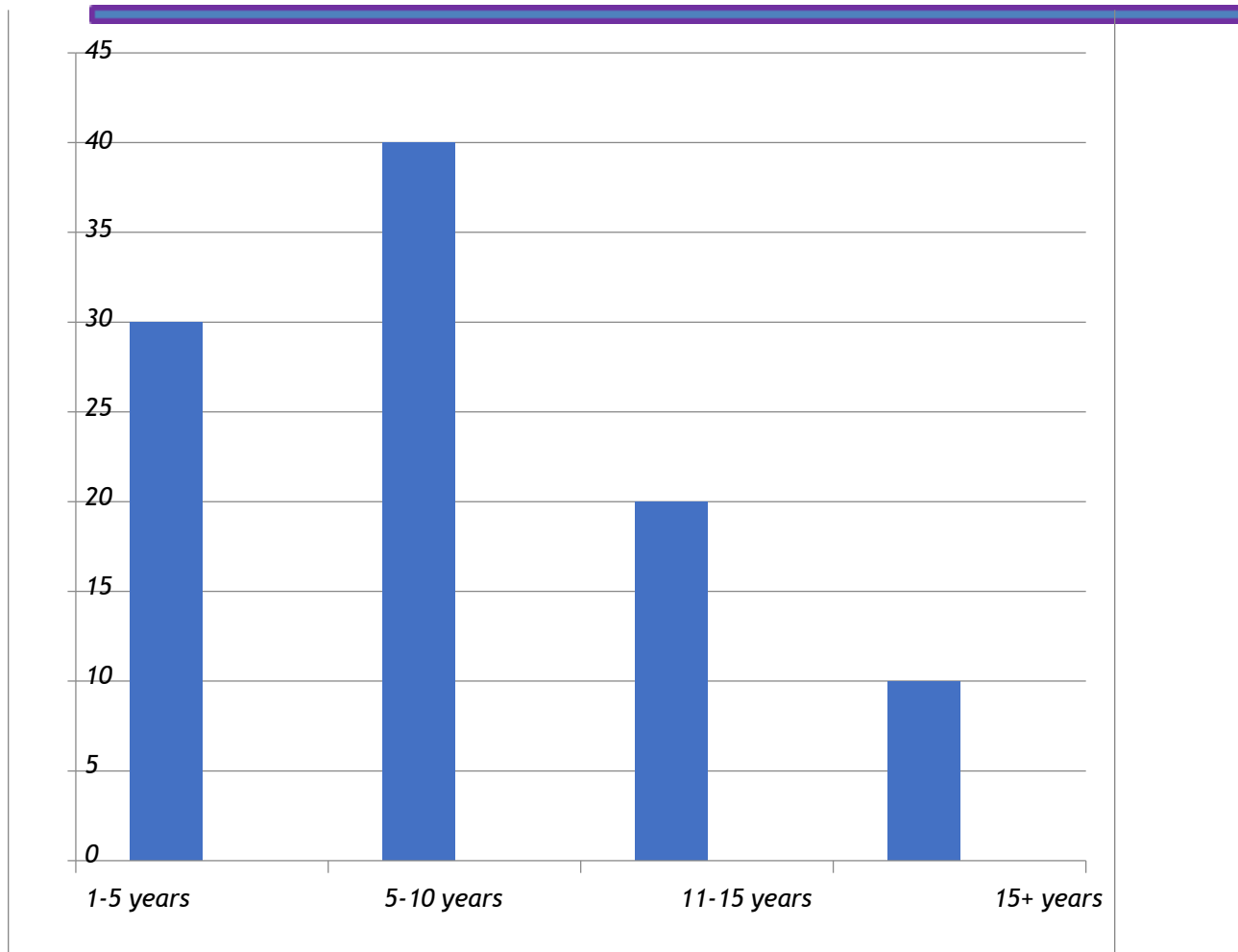


Figure 2: years of experience in teaching geography

The findings indicate that majority of Respondents had been in agricultural activities between 1-10 years (40%). 30% of the respondents had worked for 1-5 years while

20% of them had an experience of 11-15 years. It was also observed that some respondents had an experience of 15+ years.

Table 3: The role of irrigation on poverty alleviation

The first objective of the study sought to examine the influence of irrigation on poverty

alleviation in urban centres and the findings from the study are as seen below.

<i>Influence of irrigation</i>	<i>No of respondents</i>	<i>Percentage</i>
<i>Increased productivity/High</i>	<i>6</i>	<i>33</i>
<i>Increased income</i>	<i>4</i>	<i>22</i>
<i>Employment opportunities</i>	<i>2</i>	<i>11</i>
<i>Food security</i>	<i>6</i>	<i>33</i>
<i>Total</i>	<i>18</i>	<i>99</i>

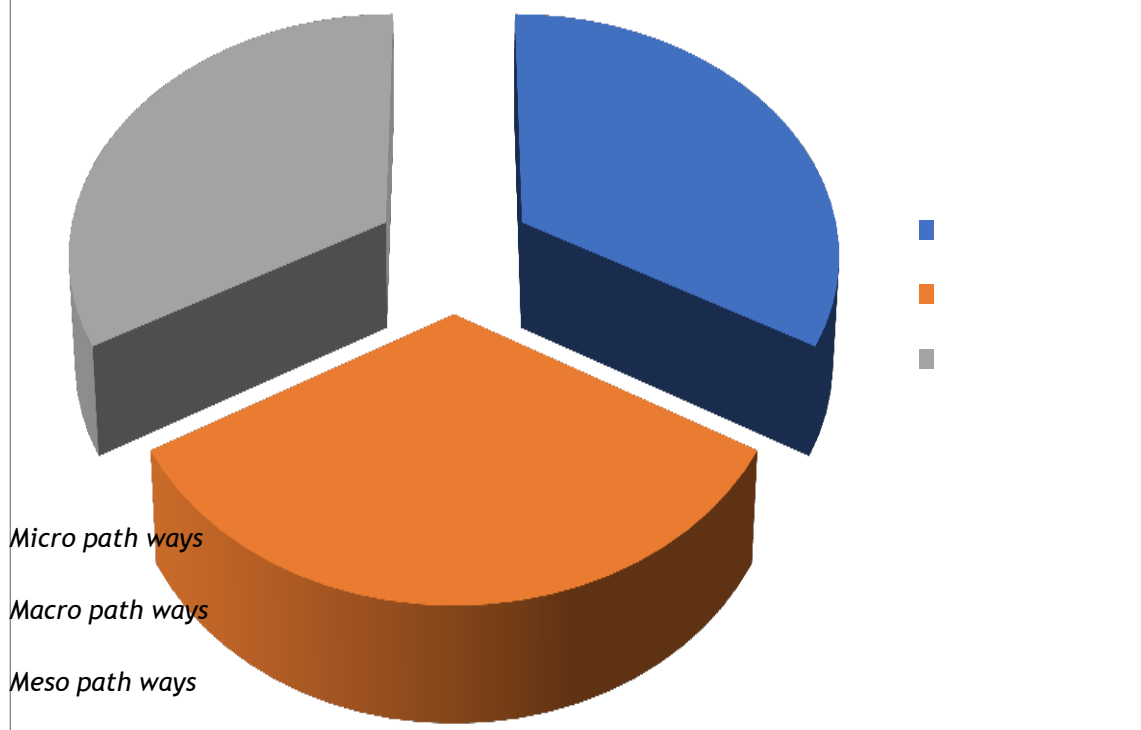
Source: field research 2022

Table 3 above portrays the influence and role of irrigation on poverty alleviation in urban centres. According to the findings, irrigation leads to increased productivity/high yields (33%). 22% of the respondents agreed that irrigation led to

increased incomes of the farmers. This is due to the high levels of production brought about by irrigation. 11% of the respondents also agreed that irrigation leads to employment opportunities to the poor local people and thus reducing the level of poverty while 33% of the other respondents agreed that irrigation leads to food security there by saving and reducing the rate of irrigation in the netizens.

The linkages and pathways through which irrigation contributes to poverty reduction

The second objective of the study sought to examine the linkages and pathways through which irrigation contributes to poverty reduction and the findings are as seen below.



Source: primary data 2022

The figure above shows the findings on the pathways in which irrigation has led to poverty alleviation. It is observed that three pathways were identified and contributes equally to poverty alleviation as it is elaborated below.

Micro-pathway: through increasing returns to physical, human, and social

capital of the poor households (productivity and distribution pathway);
Meso-pathway: through integrating the poor into factor-product and
knowledge/information markets (market participation pathway); and
Macro-pathway: through improving national growth rates and creating second-
generation positive externalities (growth pathway).

Conclusion

According to the thorough review, irrigation and the reduction of poverty have a close relationship. They have both direct and indirect connections. While indirect links function through influences at communal or national levels, direct linkages operate through localized and household-level effects. The poor profit from irrigation because it increases output, yields, reduces crop failure risk, and creates more year-round agricultural and nonfarm jobs. Smallholders can employ more varied cropping strategies and transition from low-value agricultural products to high-value market-oriented output thanks to irrigation.

Recommendations

Invest in irrigation; ongoing irrigation development will be essential to food production in the future. Agriculture reliant on rainfall won't be able to meet the rising demand to feed an expanding population. In Asia, the Green Revolution significantly increased food security and productivity. For instance, India has not experienced a significant famine since the early 1960s. In this instance, investing in irrigation was a crucial component of the plan to boost food output and keep food crop prices steady.

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