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# Rural Urban Migration and Food Sustainability in China

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## Abstract

The movement of people from rural areas to urban areas has been common. People move to urban areas to search for green pastures. The movement of people from rural areas to urban areas leaves the rural with fewer people for farm production. Thus, the study sought to examine the effect of rural-urban migration on food sustainability in China. The study adopted the descriptive research design. The collection of the data was done using questionnaires. The purposive sampling technique was employed to get the sample size. The analysis of the data was done using descriptive and inferential statistics. The findings of the study showed that rural-urban migration has resulted in few people remaining in the rural areas to do farming. Rural-urban migration has a negative impact on food sustainability in China. Migration from rural to city areas reduces the labour force in the agriculture industry and consequently has a negative effect on its economic development and food sustainability. The rural-urban migration threatens food security, through the decrease in farming production. The study noted that factors influencing migration include the presence of better social amenities, the presence of good schools and hospital facilities and refreshments in urban areas. The study concluded that migration from rural areas to urban areas has a negative impact on food sustainability in China. The study recommended that policies should be put in place which see in the lowering of rural-urban movement by raising the per capita income in rural areas through agricultural investment. The government should give technical products and ample extension services, and offer subsidies to achieve a considerable breakthrough in the agricultural sector. Government and non-governmental agencies need to exert more effort to enlighten the masses on the detrimental effect of rural-urban migration on food security.

**Keywords:** *Rural urban migration, food sustainability, China*

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## **1.0 Introduction**

The movement of people from rural areas to urban areas leaves the rural with fewer people for farm production. Migration from rural to city areas reduces the labour force in the agriculture industry and consequently has a negative effect on its economic development and food sustainability. The rural-urban migration threatens food security, through the decrease in farming production. Migration usually has a considerable influence on agriculture production, both for the destination and the origin of migration (Falco, Donzelli & Olper, 2018). It is key to know how the factors relate to ensure both the food security of the affected places and alleviate any kind of unfavorable effects. Movement from rural to city areas reduces labour force in the agriculture industry and consequently has a negative effect on its economic development and food sustainability (Liu, Barrett, Pham & Violette, 2020). This activity can influence agriculture both in the area losing inhabitants and, in the area, obtaining them. At the destination, the place usually gains from the plentiful labor force and growing skillset and knowledge, assisting to sustain and expand the agriculture sector.

Rural-urban movement is due to the high demand of labour by the industries and factories, that guarantees employees higher levels of production, and investors' favorable profits above the opportunities discovered in the traditional agricultural industry (Sunam, Barney & McCarthy, 2021). China is experiencing increasing population growth rate with rising rural-urban movement. The idea of migration of every person entails many 'push elements' that compel migrant out of rural areas and 'pull elements' that attract migrants to urban areas. Rural-urban migration reveals that anticipated wage disparity is the major reason for rural-urban migration. It indicates that individuals will keep on moving from rural to urban areas till the salaries in the rural places end up being the same as to those in urban places (Delazeri, Da Cunha & Oliveira, 2022). A lot of researches have analyzed aspects influencing rural to urban movement and exposed that the economic consideration was the main motivating element. The government should give technical products and ample extension services, and offer subsidies to achieve a considerable breakthrough in the agricultural sector. Government and non-governmental agencies need to exert more effort to enlighten the masses on the detrimental effect of rural-urban migration on food security.

Liu and Dang (2019) indicate that rural-urban migration has resulted in few people remaining in the rural areas to do farming. The rural-urban migration threatens food security, through the decrease in farming production. Policies should be put in place which see in the lowering of rural-urban movement by raising the per capita income in rural areas through agricultural investment. The government should give technical products and ample extension services, and offer subsidies to achieve a considerable breakthrough in the agricultural sector. Government and non-governmental agencies need to exert more effort to enlighten the masses on the detrimental effect of rural-urban migration on food security. Some factors influencing this migration include presence of better social amenities, presence of good schools and hospital facilities and refreshment at urban areas. As different countries continue to grow, the number of the individuals participating in farming is reducing. Agriculture sector is adversely affected by unfavorable weather conditions which in turn disrupts the price stability of the products. Farmer's welfare will be subsequently impacted if there is reduction in the price of their products. Öztürk, Topaloğlu,

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Hilton and Jongerden (2018) argued that mostly agriculture sector usually provides seasonal jobs; therefore, it does not offer enough earnings to maintain the family for a whole year.

Agriculture remains to be the important economic activity in the rural places (Rondhi, Pratiwi, Handini, Sunartomo & Budiman, 2018). Among rural households, individuals with greater opportunity cost tend to migrate and the elderly, some of uneducated people are left behind to conduct agricultural activities leading to reduction of labor in the rural areas. Migration has favorable effect on non-agricultural income and unfavorable influence on farming income (Wang, Xin & Wang, 2020). In addition, remittances may encourage farmers in on-farm investment, capital issues that have hampered farmers in purchasing fertilizer and other crucial inputs. Even though there have been a considerable work on migration and effects of movement on development, little interest are paid to the rural-urban migration and its effect on agriculture production. Government and non-governmental agencies need to exert more effort to enlighten the masses on the detrimental effect of rural-urban migration on food security. The government should give technical products and ample extension services, and offer subsidies to achieve a considerable breakthrough in the agricultural sector.

Pingali, Aiyar, Abraham and Rahman (2019) reported that the rural-urban movement with the growing urbanization has led farmers to slowly desert farming, particularly among the young rural workers. In many nations, the main laborers engaging in agriculture have progressively altered from the young to the old. Migration has been related to the increasing population growth in the metropolitan areas in China. Rural migration might alter farmer household's habits by labor and capital changes, while urbanization's demand and supply to the agriculture industry can alter the cost-benefit framework of agricultural cultivation by agricultural markets and technical efficiency changes. As a result, urbanization has become the main driver of rural social and farming restructuring. The linkages between rural migration and farming have ended up being a crucial aspect of rapid urbanization in growing nations, influencing rural surplus labor release, food security, agricultural prices, rural building, agricultural modernization, rural land usage and ecological change, and even the prospects for urbanization. Rural migration has been a vital factor in this dynamic structure of rural- urban changes and agricultural restructuring (Yang, Liu, Li & Du, 2019). Hence, exploring the linkages between rural migration and agricultural restructuring in the context of urbanization has become a vital study area in developing nations to maximize rural-urban development and encourage rural construction.

## **2.0 Literature Review**

According to Antônio and Oliveira (2020) migration has been related to the increasing population growth in the metropolitan areas in Brazil. This study determines how rural-urban movement influences farming production at the origin of migration. Again, it represents the net effect of various migration methods (temporary and permanent migration) on agricultural productivity. Sample data of 150 families from 5 towns were used from the Brazil Living Specifications Study 5 to analyze the socioeconomic qualities of families which have no migrants, those with short-term migrants and families which have long-term migrants. Cobb Douglas production function and two stage least squares regression design was utilized to develop the partnership in between farming production and migration. The results of the study indicated that families whose

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participants took part in temporary migration had dramatically decreased farm production while families whose participants participated in permanent migration had no substantial impact on production. The hypothesis of the New Economics of Labour Migration which states that movement assists in investment and serves as insurance coverage to risks related with these investments at the origin of migration does not hold. The loss of labour from the beginning of migration for both sorts of migration appear to keep families held down in poverty. The study assists the policy which sees to the lowering of rural-urban movement by raising the per capita income in rural areas via agricultural investment.

Liu and Dang (2019) conducted study to discover the partnership in between food sustainability and rural-urban migration by establishing an econometric design and using it to the context of Australia. National level information was utilized within the years 1970-2001. Policy implications of minimizing rural-urban movement utilizing food sustainability flexibilities are created. The results support the hypothesis that rural-urban movement is a favorable function of the ratio of urban per capita income to rural per capita income. Furthermore, the findings assist a policy targeted at minimizing rural-urban movement flows with increases in per capita earnings originated from enhanced agricultural investment. There should be the creation of industries, provision of social facilities like electricity and good communication facilities and so on, in the rural regions will assist in suppressing this rural-urban movement. There is a need to lower the gaps between rural and urban centers i.e. there should be the stipulation of social facilities in the rural areas. Loans should be made available to the rural farmers and the terms of the agreement made in simple language to them; this will assist them in buying much more land for farming along with labor usage.

Kaur and Kaur (2019) research investigate the impacts of rural-urban migration on agriculture production in Magway Area, Myanmar. It concentrated on the partnership in between rural-urban movement and farming growth in this field. The purpose of the research is to make an evaluation and give insights on rural-urban movement and its effects on agricultural growth, concentrating on four towns in the region. In the research, the structured interview surveys are utilized to gather data from the participants in the regions. Both primary and secondary data are also utilized in it. The structured interview and qualitative techniques of household study based upon the theoretical theory proposed by Ravenstein and Lee will be used in the study. According to Ravenstein's concept, there are 3 primary areas for examination. The study noted that factors influencing migration include the presence of better social amenities, the presence of good schools and hospital facilities and refreshments in urban areas. The study concluded that migration from rural areas to urban areas has a negative impact on food sustainability. The study recommended that policies should be put in place which see in the lowering of rural-urban movement by raising the per capita income in rural areas through agricultural investment. The government should give technical products and ample extension services, and offer subsidies to achieve a considerable breakthrough in the agricultural sector. Government and non-governmental agencies need to exert more effort to enlighten the masses on the detrimental effect of rural-urban migration on food security. First, the research will certainly concentrate on the reasons why people migrate from rural to city places. Secondly, where are migrants dispersed, internally or globally? Thirdly, features of migrants like gender, age group, level of education and household status was assessed. The research supports a

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policy focused on lowering rural-urban migration flows by using the findings of the research to convince the government to give technical products and ample extension services, and to offer subsidies in order to attain a considerable breakthrough in the agricultural sector.

Duda, Fasse and Grote (2018) study explore the impacts of agricultural land at rural-urban migration and the labor market results in the case of Germany. We utilize the rural sample of the 2011 data that cover about 2450 rural families in 5 regions of Germany. We discover that a raise in the agricultural land of a family often tends to enhance the family members' propensity for migration for working in urban places. It was also discovered that an increase in land considerably lowers the number of days of movement, raises the number of days of farming work, and reduces the number of days of local non-farming work. More remarkably, the adverse impact on time for local non-farming work is much larger than that for non-local non-farming work. The increase in the amount of agricultural land also presses family participants to move even more. This finding reveals a new system different from the literature. To explain this disparity, we contrast the impact of land among various age-groups and discover that the favorable connection in between agricultural land and rural-urban movement only exists for young people. As a result, the findings might reflect the adjustment of the role of agricultural land gradually. The outcome reveals that less farming land prevents rural-urban movement recommends that, to assist rural people get accessibility to opportunities in the urban, governments must execute strategies targeting families with much less agricultural land.

A study by Pfeiffer (2019) discovered that rural to city migration has constantly been an intrinsic part of the economic growth process, but its effects are improperly recognized, and are frequently feared by governments, which has brought about policies that either attempt to explicitly or unconditionally prevent migration. A major worry is that rural-urban migration may threaten food security, via decrease in farming production. In the study influence of migration and agriculture was examined, which takes the challenge of statistically recognizing effects of migration seriously. We began by reviewing rural-urban production gaps and effects for policy, following through to effects on farming production and rural investment. Wang and Chen (2020) research was executed to evaluate the impact of rural-urban migration by young people on farming labour supply in Taiwan. This was done by identifying the 4 communities that are composed in the study region, from the two communities, 50 participants were randomly chosen. Data acquired were examined utilizing descriptive analytical tools like frequency distribution table and percentages. The outcome of the analysis revealed that males migrate more than the women in the research area. It was found that a lot of the migrants have various levels of educational qualification and region mostly single. It was likewise noted that the main root causes of rural-city migration in the research region are lack of social facilities like electricity, pipe borne water, poor communication centers, poor road network and no well-developed agro-allied industry etc. It was likewise revealed that some of the challenges of rural-urban movement are loss of agricultural labour force, decrease in farming output, decrease in population of the rural occupant etc. For that reason suggestion like creation of industries, provision of social facilities like electricity and good communication facilities and so on, in the research regions will assist in suppressing this rural-urban movements.

Grabrucker (2021) conducted research on the impact of the rural-urban labor movement and remittances on agricultural productivity in rural regions of Japan are investigated. A total amount

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of 235 families are utilized as the sample size for the research by utilizing multi-stage sampling strategy. The descriptive statistics reveals that migrant sending families experience labor shortage in peak seasons however they are benefited from rural-urban migrants because the income they get from migrants enables them to repay their loan and buy farming inputs. The econometrics analysis indicates that rural-urban movement has trivial impact on farming production. But remittances have favorable and substantial impact on farming production. The study indicated that factors influencing migration include the presence of better social amenities, the presence of good schools and hospital facilities and refreshments in urban areas. Migration from rural areas to urban areas has a negative impact on food sustainability. The study recommended that policies should be put in place which see in the lowering of rural-urban movement by raising the per capita income in rural areas through agricultural investment. Apart from this, cultivated land, animal's ownership, and expansion services have favorable and substantial impact on agricultural productivity. Using agricultural chemical has negative and considerable impact on agricultural productivity. Lastly, training must be provided to the rural residents on the best usage of remittances and promote the culture of saving and investment for sustained rural economic advancement. Additionally, agricultural extension service delivery needs to be increased via timely employment, regular training of agents and provision of reliable logistics.

Marta, Fauzi, Juanda and Rustiadi (2020) performed study to evaluate the association between agricultural productivity and rural-urban migration in Indonesia. The association is first examined by approximating an food Sustainability model on nation level information covering the years between 1980 -2010. The association is additional investigated by examining study and empirical researches. Generally, the results support the concept that rural-urban migration adversely effects farming production with the loss of productive participants of the rural regions. There is a need to lower the gaps between rural and urban centers i.e. there should be the stipulation of social facilities in the rural areas. Loans should be made available to the rural farmers and the terms of the agreement made in simple language to them; this will assist them in buying much more land for farming along with labor usage. There should be the creation of industries, provision of social facilities like electricity and good communication facilities and so on, in the rural regions will assist in suppressing this rural-urban movement. On top of that, the outcomes support policies targeted at boosting access to credit in rural regions. Four policy choices are developed and the resulting recommendation is the modification of the status quo to include the production of cooperatives for rural women-headed families who have actually lost a substantial portion of the men in their families to cities.

### **3.0 Research Methodology**

The study adopted the descriptive research design. The collection of the data was done using questionnaires. The purposive sampling technique was employed to get the sample size. The population was drawn from employees in the Ministry of Agriculture and Rural Affairs and farmers in North China Plain, Yangtze River delta and Yangtze valley. The analysis of the data was done using descriptive and inferential statistics.

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#### 4.0 Research Findings

The research findings included the discussion of the correlation and regression analysis results.

#### 4.1 Correlation Analysis

The correlation analysis shows the association between the variables. The correlation results are presented in Table 1

**Table 1: Correlation Analysis**

|                       |                     | Food Sustainability | Rural-Urban Migration |
|-----------------------|---------------------|---------------------|-----------------------|
| Food Sustainability   | Pearson Correlation | 1.000               |                       |
|                       | Sig. (2-tailed)     |                     |                       |
| Rural-Urban Migration | Pearson Correlation | -.715 **            |                       |
|                       | Sig. (2-tailed)     | 0.000               | 0.000                 |

The correlation results from Table 1 indicate that rural-urban migration is negatively and significantly associated with food sustainability ( $r=-.715$ ,  $p=.000$ ). The results imply the increase in the rural urban migration reduces the food sustainability. This concurs with Kaur and Kaur (2019), reported that rural-urban migration negatively affects agriculture and government should give technical products and ample extension services, and offer subsidies in order to achieve a considerable breakthrough in the agricultural sector.

#### 4.2 Regression Analysis

The section consisted of model fitness, analysis of variance and regression of coefficient. The results presented in Table 2 show the model fitness

**Table 2: Model Fitness**

| Model | R     | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1     | .142a | 0.357    | 0.188             | 0.012881                   |

The results from Table 2 depict that rural-urban migration was discovered to be satisfactory in explaining food sustainability in China. This was supported by the coefficient of determination, also known as the R square of 0.357. This indicated that rural-urban migration explains 35.7% of the variations in food sustainability in China. Thus, rural-urban migration is a good predictor in explaining food sustainability in China. The regression coefficient results are presented in Table 3

**Table 3: Regression of Coefficient**

|                       | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.  |
|-----------------------|-----------------------------|------------|---------------------------|-------|-------|
|                       | B                           | Std. Error | Beta                      |       |       |
| (Constant)            | 0.825                       | 0.315      |                           | 2.62  | 0.029 |
| Rural-Urban migration | -0.537                      | 0.028      | 0.323                     | 19.18 | 0.001 |

According to the results in Table 3, it was discovered that rural-urban migration is negatively and significantly related to food sustainability ( $\beta=-0.537$ ,  $p=0.009$ ). The study results were supported by the calculated t-statistic of 19.18 which is larger than the critical t-statistic of 1.96. The findings indicated that when the rural-urban migration increase by one unit, the food sustainability will reduce by 0.537 units while holding other factors that influence food sustainability constant. Wang and Chen (2020) articulated that the rural-urban movement brings losses in the agricultural labor force, a decrease in farming output and a decrease in the population of the rural occupant.

### 5.0 Conclusion

Based on the correlation results, it was found that rural-urban migration is negatively and significantly associated with food sustainability ( $r=-.715$ ,  $p=.000$ ). The regression results further showed that rural-urban migration is negatively and significantly related to food sustainability ( $\beta=-0.537$ ,  $p=0.009$ ). The study results were supported by the calculated t-statistic of 19.18 which is larger than the critical t-statistic of 1.96. The findings indicated that when the rural-urban migration increase by one unit, the food sustainability will reduce by 0.537 units while holding other factors that influence food sustainability constant. Migration from rural to city areas reduces the labor force in the agriculture industry and consequently has a negative effect on its economic development and food sustainability. The rural-urban migration threatens food security, through the decrease in farming production. The study noted that factors influencing migration include the presence of better social amenities, the presence of good schools and hospital facilities and refreshments in urban areas.

### 6.0 Recommendations

The study recommended that policies should be put in place which see in the lowering of rural-urban movement by raising the per capita income in rural areas through agricultural investment. The government should give technical products and ample extension services, and offer subsidies to achieve a considerable breakthrough in the agricultural sector. Government and non-governmental agencies need to exert more effort to enlighten the masses on the detrimental effect of rural-urban migration on food security. There is a need to lower the gaps between rural and urban centers i.e. there should be the stipulation of social facilities in the rural areas. Loans should be made available to the rural farmers and the terms of the agreement made in simple language to them; this will assist them in buying much more land for farming along with labor usage. There should be the creation of industries, provision of social facilities like electricity and good communication facilities and so on, in the rural regions will assist in suppressing this rural-urban movement.

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