

Rice Combine Harvester: Its Effects to the Livelihood of Rice-Field Tenants in a Second Class Municipality

Asia Pacific Journal of
Multidisciplinary Research
Vol. 4 No.4, 112-118
November 2016
P-ISSN 2350-7756
E-ISSN 2350-8442
www.apjmr.com

Jesrael Medrano, Kristine Villanueva, Darin Jan Tindowen
University of Saint Louis, Philippines
djntindowen2015@gmail.com

Date Received: July 8, 2016; Date Revised: August 30, 2016

Abstract - *Over the past few years, the advancement of modern technology has intensely overhauled society. People use and benefit from modern technology, and the tremendous opportunities it provides play a significant role in almost all aspects of human life. However, too much usage of this has its repercussions as well. Technological and mechanical change in agricultural sector and its impact on the work force have already become one of the neglected concerns of farmers in Amulung, a second class municipality of Cagayan.*

The newly introduced rice combine harvesters are already dominating the rice fields in Amulung during harvesting seasons. Thus, it replaces the conventional system of harvesting using human labor and sickles. This study is conducted to determine the effects of rice combine harvesters to the livelihood of rice field tenants in Amulung, Cagayan. Using purposive sampling through site selection approach and networking, 25 rice field tenants were selected as participants of this study. In-depth conversations and guided interview had served as the main instruments used by the researchers to gather the needed data.

The results showed that rice combine harvesters cause unemployment and migration among the participants and degrade their sense of solidarity and camaraderie. As a result, the participants sought alternative activities which they can be paid off. Also, they engage themselves in livestock and poultry production, and even in informal sector economy just to cope with the prevalence of rice combine harvesters.

Keywords: *Rice Combine Harvester, Second Class Municipality, Rice Field Tenants, Alternative Activities*

INTRODUCTION

Technology has without doubt an impact on the society. It has an effect on the growth of one's economy, of one's culture, and of one's living standards. However despite of these improvements it create, it is important to note that the benefits are a double-edged sword with some being beneficial and other being detrimental; for as its evolution rapidly takes place, the drawbacks and negative components that go along with this also advances.

Technological change and its impact on the work force have already become one of the focuses of attention for in some cases it cause pernicious as well as tangible issues. In the past few years, in terms of agriculture, patterns of technological integration in rural areas or rural mechanization have taken on a new implication with concerns about rural employment. It has been found out by Biggs [1] that the spread of

modern agricultural equipment as means of technological integration has been accompanied by the intensification of agriculture and other rural economic activities but it has also been accompanied, in most cases, by some workers particularly farm laborers leaving rural areas and finding employment in urban areas and in the overseas remittance economy. Thus, as Guilhoto [2] stated, one of the key drawbacks of switching to mechanised agriculture is job losses.

In the Philippine agricultural setting specifically in the province of Cagayan, where this study was conducted, rice has always been the prime commodity and staple food. The production of rice encompasses many processes. Harvesting, as one of the steps, is the most awaited process; not just on the side of the rice field owners but also on the part of the tenants or those rice farmers who were employed by the rice

field owners as laborers. Years ago, harvesting period was a great advantage for these farmers for they were also hired as manual reapers by the rice field owners. These farmers then gain profits from their labor through an agreed rice sharing system with their employer – the rice field owners. But recently, one type of mechanical equipment that has grown rapidly in popularity is Combine Harvester. It is a technology that combines harvesting, threshing, cleaning, and in some instances, bagging, in one operation (Praweenwongwuthi, Laohasiriwong, and Rambo, [3]). Fully mechanized harvesting systems like this have already replaced the conventional systems using farmers' labor with sickles in harvesting operations in most part of Cagayan. Consequently, just as what Samaraweera [4] articulated, indeed combine harvesting machines do have great impact to the farm laborers' economic life.

In the mid of the year 2014, these rice combine harvesting machines have already been utilized by large-scale farmers or those farmers who have capital for the production of rice in Cagayan. Cagayan consists of twenty-eight municipalities and among those are three second class municipalities. Amulung as one of the three is considered as a second class municipality for it obtains an average income of ten million pesos or more but less than fifteen million pesos annually. Being a second class municipality, Amulung depends much of its economy on agriculture, specifically in rice production. Moreover, being considered as an agricultural town, most of the people also depend their income and livelihood in farming. However, a large number of people are tenants who do not own rice fields and rely much of their income in working with rice field owners who possess a big capital in rice production. The purpose of this study then was to find out the effects of the integration and predomination of the newly introduced rice combine harvesters to the livelihood of rice field tenants in Amulung, Cagayan.

The results of this study will serve as a tool to assess the immediate and will be long-term effects of the predomination of rice combine harvesters to the economic life of the rice field tenants in Amulung, Cagayan. This study was proposed for the recognition of the sentiments of these farmers, being the main participants. With that, results of this study were envisioned to help the participants verbalize their stance with regard to this mechanization. Significantly, this study would be a great asset for the

Department of Agriculture, Department of Labor and Employment, and for the local government of Amulung in addressing the pernicious problems faced by these farmers.

OBJECTIVES OF THE STUDY

This study aimed to examine the effects of the integration and predomination of the newly introduced rice combine harvesters to the livelihood of rice field tenants in Amulung, Cagayan. It specifically tried to answer the following questions:

- a. What is the personal profile of the participant-farmers when grouped according to the following variables: sex, age and civil status?
- b. What are the consequences of rice combine harvester to the lives of the participant-farmers?
- c. What alternative activities do the participant-farmers sought in order to cope with the prevalence of rice combine harvesters?

METHODS

Research Design

The research design for this study was qualitative for it utilized interview to gather the necessary data from the participants. Qualitative research design focused on insights or perceptions of individuals of the phenomenon under investigation. Under qualitative design, the type of approach in this study was phenomenological research for it discovers the meaning of people's life experiences, giving the perception of a particular phenomenon. This study focused on the impact of rice combine harvester to the livelihood of the rice field tenants.

Locale of the Study

This study was conducted in Amulung, a second class municipality of Cagayan. The said municipality was selected for most of its agricultural land specifically its portions engaged in rice production are already being predominated by mechanized farming equipment, and for that reason it needs now a special attention.

Participants

The participants of this research were 25 rice field tenants from Amulung, Cagayan. In order to identify and gather the participant-farmers, purposive sampling through site selection approach and networking was utilized following this set of criteria:

(1) must be at least 20 years old, & (2) must be a bonafide resident of Amulung.

Instruments and Procedures

The principal tool that was used in this study was in – depth conversations or guided interview. The interview was supplemented with observation to verify some of the written responses to the items. Questions that were not understood by the participant-farmers in the interview were elaborated and explained further by the researchers. The researchers utilized follow-up questions only when participant’s answers in the interview were not clear.

The researcher-made interview guide used was divided into two parts which was answered by the participant-farmers for the gathering of data. The first part included questions on personal data of the respondents such as sex, age, and civil status. The second part of the interview included questions with regard to the consequences or effects of rice combine harvester to the overall employment of the participant-farmers and the alternative activities & occupations they sought in order to cope with the prevalence of rice combine harvesters.

Qualitative Data Analysis

The analysis of this qualitative research involved aiming to uncover and / or understand the big picture - by using the data to describe the phenomenon and what this means. Content analysis was used as the procedure of the researchers in the categorisation, classification, and summarisation of the verbal or behavioural data from the participants.

The responses of the participants were analyzed and undergone four processes under phenomenological study. The first part was bracketing in which the researchers identified and held in abeyance preconceived beliefs and opinions about the phenomenon under study. The second part was intuiting where the researchers remained open to the meanings attributed to the phenomenon by those who experienced and in this case the impacts of rice combine harvesters to the rice field tenants. The third part was analyzed in which the researchers extracted significant statements and categorized and made sense of the essential meaning of the concept under study. The last part was describing wherein the researchers understood and defined the phenomenon.

Ethical Considerations

This study complied with the ethical standards set by the university research center for it to be accepted and conducted. Appropriate consents were prudently explained before they were signed, and the identities of the respondents were kept anonymous. Pertinent information relating to the participant-farmers like personal and socio – economic status were treated with strict confidentiality and were not disclosed to anyone or to any agency without the respondents’ approval.

RESULTS

A. Profile of the Participants

Table 1. Profile of the Participants

Profile Variable	f	%
SEX		
Male	12	48.00
Female	13	52.00
TOTAL	25	100.00
Age Bracket		
20 years old – 30 years old	3	12.00
31 years old – 40 years old	5	20.00
41 years old – 50 years old	9	36.00
51 years old and above	8	32.00
MEAN AGE	47	
Civil Status		
Single	0	0.00
Married	18	72.00
Widowed	7	28.00
TOTAL	25	100.00

Table 1 presents the profile of the participants when grouped according to sex, age, and civil status. In terms of sex, the table shows that the participants of this study are almost comprised of male and female in an equal number. Meanwhile, in terms of age, it can be gleaned in the table that majority of the participant-tenants are 41 years old to 50 years old. And finally, in terms of civil status, it was revealed that most of the participants are married.

B. Consequences of Rice Combine Harvester to the Lives of the Rice Field Tenants in Amulung, Cagayan

a. Loss of Livelihood or Unemployment

The result of the interview showed that all the participants recognized that rice combine harvester as a modern way of harvesting is not favourable to their lives. Considering the fact that one of their sources of income comes from manual harvesting, the integration of rice combine harvester then automatically impaired their livelihood since this modern machine have replaced their primitive system of harvesting.

b. Migration to Urban and other Areas

Due to unemployment caused by the rice combine harvester, the rice field tenants in Amulung, Cagayan, then have no choice but to search for an alternative job or occupation in other areas. Based on the interview, most of the rice field tenants would prefer to go to urban areas such as Tuguegarao City for they think that there are many opportunities that they can grab to earn money and for a living just to cope with the prevalence of this mechanized harvester.

c. Degradation of the sense of “Bayanihan”

Rice field tenants generally had the feeling of solidarity or sense of “*bayanihan*” which refers to a spirit of communal unity and cooperation. They traditionally practiced helping each other in carrying out the processes needed in the production of rice such as harvesting. Based on the sentiments of the participants transpired in the interview, the introduction of rice combine harvester in Amulung is obviously unfavourable for it gradually replaces now their traditional as well as their cultural way of harvesting.

C. Alternative Activities Sought by the Rice Field Tenants in Amulung, Cagayan in order to Cope with the Prevalence of Rice Combine Harvester

a. Paid Labor

It is a mode of production in which the rice field tenants sell their capacity to work as a commodity. In the interview conducted, the alternative activities under paid-labour-system which the tenants resort to are as follows:

“*Agsikka*” - Ilocano term which refers to the task of uprooting rice sprouts from a portion of a rice field.

“*Agraep*” – Ilocano term which refers to the task of replanting the uprooted rice sprouts onto the conditioned portions of a rice field.

“*Agbilag*” – Ilocano term which refers to the task of drying manually the harvested crops such as rice and corn that is often done in pavements under the heat of the sun.

“*Agkaryada*” – Ilocano term which refers to the task of transporting manually the harvested crops such as rice and corn that are usually in sacks.

“*Agburas*” – Ilocano term which refers to the task of harvesting crops. This term is usually attributed to the task of harvesting corns specifically.

“*Aglaba*” - Ilocano term which refers to the task of washing clothes.

“*Agkalpintero*”- Ilocano term which refers to the engagement in woodworking or carpentry.

b. Livestock and Poultry Production

The rice field tenants also resort to animal farming or industrial livestock and poultry production which is a modern form of farming that refers to the keeping of animals such as pigs, chickens, cows, and carabaos. They generate their own income and their daily and future consumption with this type of production.

c. Engagement in Informal Sector Economy

They also engage themselves in planting crops other than corn and rice. Vegetables as crops that can be easily planted are grown in their backyards or in any other fertile and spacious lands. They usually sell most of their fruitage and retain some for their own consumption.

DISCUSSION

The aim of this study was to examine the effects of the integration and predomination of the newly introduced rice combine harvester to the livelihood of rice field tenants in Amulung, Cagayan. It was shown that in terms of sex, the participant-rice field tenants in Amulung, Cagayan are almost comprised of male and female in an equal number. It can be perceived that the participants in Amulung, a second class municipality, both male and female are engaged in

rice farming. However, the level of engagement in rice farming of the rice field tenants is affected by age for it can be gleaned in the table that majority of the rice field tenants in Amulung, Cagayan are 41 years old to 50 years old. This implies that the tenants who are in their middle ages are more active than those tenants in the other range of ages. This is attributed to some factors such as rice farming readiness and experiences. On the other hand, in terms of civil status, most of the rice field tenants are married and it was revealed that the tenants who already have their own family resort more to the livelihoods offered by the production of rice than the tenants who are single and widowed.

The findings revealed that there are three consequences of the integration and predomination of rice combine harvester to the lives of the rice field tenants in Amulung, Cagayan. One of its consequences is that it causes unemployment among the participants and this is in pursuant to the findings of Baldalova [5], ELLA [6], and of Smith [7] which showed that switching to mechanised agriculture such with the use of this harvester causes reduction of earnings and job losses. All of the participants of this study affirmed unhesitatingly that rice combine harvester already took one of their biggest sources of income or livelihood. Amongo [8], Amarasinghe [9], and Berger & Frey [10] found a substantial support for this claim telling that indeed majority of rice field labourers are already being replaced by these combine harvesters.

Another consequence of this modern harvester is that it forces other rice field tenants to migrate. In the interview, those tenants who mainly depend in manual harvesting answered that they tend to go to other areas such as cities and neighbourhood municipalities in search for alternative jobs. And unfortunately, some of them who were left with no other choice but to permanently stop using their traditional sickles are already planning to go abroad and find an employment. The findings affirms the study of Justice [11] in which it is then apparent that these rice combine harvesters as brought by agricultural mechanization has been accompanied by some labourers leaving rural areas and finding employment in urban areas and in the overseas remittance economy.

On one hand, the other consequence of rice combine harvester to the lives of the rice field tenants is that it degrades their sense of *bayanihan*. Years ago,

rice field tenants generally had the feeling of solidarity or sense of *bayanihan* which refers to a spirit of communal unity and cooperation. They traditionally practiced helping each other in carrying out the processes needed in the production of rice, and harvesting as one of the processes was actually the most awaited period on their part. Duff [12] also discussed that harvesting time is the advantage of rice field tenants for they gain profits from their paid labour through the rice sharing system, and especially it was also in this period where they consciously build rapport and practice camaraderie among themselves. However, based on the sentiments of the participants transpired in the interview, the introduction of rice combine harvester in Amulung is obviously unfavourable for it gradually replaces now their traditional as well as their cultural way of harvesting. In addition, it actually even generates hatred and disagreements between large-scale farmers and farm labourers. In the interview, all of the rice field tenants sounded with disgust that they even hope for the misfortunes of rice combine harvesters in the field. This claim and consequence of rice combine harvester is supported by the study of Sutton [13] asserting the idea that mechanical integration in rural communities completely damages the way people live and interact harmoniously.

In view of its effects the rice field tenants sought alternative activities in order to cope with the prevalence of these rice combine harvesters. In line with this, Mark [14] also pointed out that when mechanical innovations displaced human labourers they definitely resort to alternate jobs. The result showed in the interview that majority of those activities which the rice field tenants in Amulung engage to are categorized under paid-labour system. The tenants also involve themselves in livestock & poultry production, and in informal sector economy. The activities in paid-labour basis, the rice field tenants sell their capacity to work as a commodity. That is, in exchange for a minimal amount of money they render their service to their part-time employer. The alternative activities under paid-labour system which the tenants resort to are easily found in their immediate community are mostly related still to farming. The alternative activities which they enumerated are *a.) agsikka* which refers to the task of uprooting rice sprouts from a portion of a rice field; *b.) agraeap* which refers to the process of replanting the uprooted rice sprouts onto the conditioned portions

of a rice field; *c.) agbilag* which refers to the task of drying manually the harvested crops such as rice and corn that is often done in pavements under the heat of the sun; *d.) agkaryada* which refers to the task of transporting manually the harvested crops such as rice and corn that are usually in sacks; *e.) agburas* which refers to the task of harvesting crops and is usually attributed to the task of harvesting corns specifically; *f.) aglaba* which refers to the task of washing clothes; and *g.) agkalpintero* which refers to the engagement in woodworking or carpentry. Like harvesting, these alternative activities which the tenants seek are seasonal and are therefore momentary jobs.

Their involvement in livestock & poultry production is also observed and intensified, and it is in this livelihood where they can also generate their own income and their daily and future consumption. Based on their responses, keeping of pigs is their primary option as it only takes months for them to raise and the income from trading such is satisfying. Moreover, the results showed that the rice field tenants also opt to the opportunities offered by the informal sector economy. They produce and sell more crops other than rice and corn. Vegetables which they term in Ilocano as 'nateng' are already planted and grown in their fertile backyards as their other source of income and daily consumption.

CONCLUSION AND RECOMMENDATION

The findings of this study revealed that rice combine harvester has a negative effect to the livelihood of rice field tenants in Amulung, a second class municipality of Cagayan. The result showed that this latest mechanized harvester causes unemployment and migration among the participants and degrades their sense of solidarity and camaraderie. Consequently, the participants sought alternative activities which they can be paid off. Also, they engage themselves in livestock and poultry production, and even in informal sector economy just to cope with the predominance of this highly advanced harvester.

Future studies should be conducted as an offshoot of this study to explore if there are any planned platforms of the local government of Amulung to address this concern. This study along with what has been recommended can be used as basis of the municipality of Amulung, Department of Agriculture, and of the Department of Labor and Employment in formulating an agenda that would generate sustainable

employment opportunities for the rice field tenants and a plausible program that would enhance agricultural mechanization in Amulung without compromising the livelihood of the said tenants.

REFERENCES

- [1] Biggs, S. (2015). *Rural and agricultural mechanization – a history of the spread of small engines in selected Asian countries*. Retrieved January 07, 2016 from http://csisa.org/wp-content/uploads/sites/2/2014/06/Biggs & Justice IFPRI_DP_01443.pdf
- [2] Guilhoto (2001). *From manual to mechanical harvesting: reducing environmental impacts and increasing cogeneration potential*. Retrieved February 9, 2016 from http://ella.practicalaction.org/wpcontent/uploads/files/120907_ENV_BraEthPro_BRIEF1.pdf
- [3] Praweenwongwuthi, S., Laohasiriwong, S., & Rambo, A. T. (2010). *Impacts of rice combine harvesters on economic and social of farmers in a village of the Tung Kula Ronghai region*. Retrieved January 5, 2016 <http://ag2.kku.ac.th/kaPDF.cfm?filename=08-Sorat.pdf&id=313&keeptrack=78>
- [4] Samaraweera, G.C. (2012). *Technological feasibility of using combine harvester in paddy cultivation in Sri Lanka - an economic and social perspective*. Retrieved January 5, 2016, <https://goo.gl/XSPi6s>
- [5] Badalova, G. (2013). *Effects of technology in our lives*. Retrieved February 7, 2016 from <https://goo.gl/1mGBSd>
- [6] Evidence and Lessons from Latin America, ELLA (2009). *From manual to mechanical harvesting: reducing environmental impacts and increasing cogeneration potential*. Retrieved February 9, 2016 from <https://goo.gl/fH9wbq>
- [7] Smith, J. (1983). *Efficiency or equity: the mechanization of rice threshing in the Philippines*. Retrieved February 10, 2016 from http://pdf.usaid.gov/pdf_docs/PNAAQ954.pdf
- [8] Amongo, R., Amongo, L., & Larona, M. (2011). *Mechanizing Philippine agriculture for food sufficiency*. Retrieved February 8, 2016 from <https://goo.gl/HkUCm6>
- [9] Amarasinghe, M.N. & Samaraweera, G.C. (2010). *Economic impacts of using combine harvesters in paddy cultivation in Hambantota district, Sri Lanka*. Retrieved February 9, 2016 from <https://goo.gl/jYh4WL>
- [10] Berger, T. & Frey, C. B. (2015). *Part 3 technology, globalisation and the future of work in Europe edited by Tony Dolphin*. Retrieved February 8, 2016 from <https://goo.gl/aGVpek>

- [11] Justice, S. (2015). *Rural and agricultural mechanization – a history of the spread of small engines in selected Asian countries*. Retrieved January 07, 2016 from <https://goo.gl/rtwmE5>
- [12] Duff, B. (1983). *Efficiency or equity: the mechanization of rice threshing in the Philippines*. Retrieved February 10, 2016 from <https://goo.gl/cESYkv>
- [13] Sutton, B. (2013). *The effects of technology in society and education*. Retrieved February 8, 2016 from <https://goo.gl/LGqFpE>
- [14] Mark, J. A. (1996). *Technological change and employment: some results from BLS research*. Retrieved February 8, 2016 from <http://www.bls.gov/mlr/1987/04/art3full.pdf>

COPYRIGHTS

Copyright of this article is retained by the author/s, with first publication rights granted to APJMR. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4>).