

Effectiveness of E-Payment in Agricultural Sector with Special Reference to Kannur District, Kerala

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Abstract: *E-payment has a success history. So, in order to avoid leakage in fund distribution government implemented e-payment in agricultural sector also. But this caused many difficulties for both farmers and authorities involved in it. The present study 'Effectiveness of e-payment in agricultural sector' a study at Kannur District, Kerala is an attempt to test the effectiveness of e-payment in agricultural sector.*

Key Words: *Agriculture, e-payment, farmers, Krishi Bhavan*

I. Introduction

Both central government and state government launched many schemes and subsidies to farmers to strengthen the agricultural sector. The needs and interest of the farmers should be protected because agriculture is the backbone of Indian economy. Agriculture not only provides food and raw material but also employment opportunities to a very large proportion of population.

Earlier all subsidies, monetary and non-monetary benefits are given to farmers through appropriate 'KrishiBhavan' directly. But now this is replaced by e-payment system. The Department of Agriculture has initiated the e-Payment process for the electronic transfer of subsidies to eligible beneficiary farmers during the year 2012-2013. The entire process was solely dependent on the software of various banks involved in the process. As per the decision taken by Government, a comprehensive and user friendly portal developed by the National Informatics Center (NIC) for the use of various Government Departments of the State, will be used by the Department of Agriculture in order to streamline the e-Payment process and make the whole process fast, reliable efficient and accountable during 2013-14 onwards.

In a landmark step, Ex-Prime Minister Dr. Man Mohan Singh announced the much awaited direct cash transfer scheme where in the subsidy amount will get directly into the bank account of the beneficiaries. The government implemented the scheme for cash transfer to the beneficiaries account from January 1, 2013 in agricultural sector.

Although government implemented Direct Benefit Transfer (DBT) in many areas, agriculture is the only sector where 100% DBT is applying now. Only e-payment transactions are taken place in agricultural sector now. In Kerala all benefits to farmers are transferred to their bank accounts.

Government of India has come out with Direct Benefit Transfer (DBT) strategy on 1 January 2013 to provide direct benefits to availing of various social entitlement schemes. It is an attempt to change the mechanism of transferring subsidies. It aims that entitlements and benefits to people could make over directly to the bank accounts by avoiding leakage and delays in the system of delivery to the eventual beneficiaries. It will ensure that the money reaches the beneficiaries directly, on time and in full amount.

So, now for availing benefits, the farmers have to open a bank account in nationalized bank, co-operative bank, Gramin bank or any other public or private bank. Along with the application for different schemes they should attach the bank account number and other necessary details. This application is given to KrishiBhavan and the KrishiBhavan officers link the bank account of every farmer with the government services. The funds allowed to farmers get credited in the respective bank account on time. The farmers can withdraw the amount and utilize for agricultural purposes. Not only cash benefits but also other benefits like money needed for purchasing seeds and fertilizers etc... are also distributed by linking bank accounts.

The vision of fund distribution through e-payment in agricultural sector is empowering the poor. It has been central to the developmental agenda of the government. One sure way of empowering them is through financial inclusiveness that is making them able, in a real sense, to own and operate bank accounts. This has acquired a sense of urgency since it is critical to our ability to reach cash benefits to the poor under various government schemes.

II. Review Of Literature

For any specific research to occupy the place in the development of a discipline, the researcher must thoroughly familiar with both previous theory and research. To assure this familiarity a review of the research literature is done. The review of the related literature provides some insight regarding strong points and limitation of the previous studies. It enables them to improve their own investigation and to arrive at the proper perspective of the study.

Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. It has to support almost 17 per cent of world population from 2.3 per cent of world geographical area and 4.2 per cent of world's water resources. In India around 70 per cent of the population earns its livelihood from agriculture. It still provides livelihood to the people in our country. It fulfills the basic need of human beings and animals. It is an important source of raw material for many agro based industries. In the words of JawaharLal Nehru, agriculture needed top most priority because the government and the nation would both fail to succeed if agriculture could not be succeeded.

Mohan Rakesh (2004) while reviewing performance of agricultural credit in India indicated that though the overall flow of institutional credit has increased over the years, there are several gaps in the system like inadequate provision of credit to small and marginal farmers, paucity of medium and long term lending, etc... these have major implications for agricultural development as also the well-being of the farming community. He, therefore, suggested that efforts are required to address and rectify these issues.

Puhazhendhi (2011) observed that Government of India initiated a series of policy measures since independence of the country. As a result the institutional credit structure in the country has shown a significant growth both in volume and complexity over the past few decades. At present there is an extensive banking infrastructure comprising 33,411 rural and semi urban branches of commercial banks, 14501 branches of Regional Rural Banks, around 12000 branches of District Central Cooperative Banks and nearly 1,00,000 cooperative credit societies at the village level which translates into at least one credit outlet for about 5000 rural people or 1000 households. This is remarkable and extensive network.

In a survey conducted by government of India in 2011 states that another major innovation was the introduction of the Kissan Credit Card (KCC) scheme in august 1998 to provide credit to farmers in flexible manner. Now it has emerged as a major mechanism for purveying credit to agriculture. Up to September 2010 about 970.64 lakh KCC's have been issued.

The report published by NABARD IN 2011 states that financial Inclusion is another important initiative of Government of India and Reserve Bank of India, through which poor and financially excluded people, like small and marginal farmers and oral lessees, are to be mainstreamed in the banking system thereby reducing dependence on money lenders and other informal sources of credit. For this purpose Committee on Financial Inclusion (Chaired by Dr. C. Rangarajan) recommended setting up of two funds, namely, Financial Inclusion Fund and Financial Inclusion Technology Fund, each of Rs 500 crore. Through these efforts are being made for providing credit facilities to the 'financially excluded' population, majority of whom are small and marginal farmers and land less

Mohan Rakesh (2004) while reviewing performance of agricultural credit in India indicated that though the overall flow of institutional credit has increased over the years, there are several gaps in the system like inadequate provision of credit to small and marginal farmers, paucity of medium and long-term lending, etc. These have major implications for agricultural development as also the well-being of the farming community. He, therefore, suggested that efforts are required to address and rectify these issues. Vassiliou (2004) defines electronic payment as a form of financial exchange that takes place between the buyer and seller facilitated by means of electronic communication.

According to cob (2004), the value of electronic payment goes way beyond the immediate convenience and safety of cards to a greater sphere of contributing to overall economic development. A report by financial research and consulting firm Celent in India, indicates that the value of retail e-payments in India is expected to reach between us\$150 billion to us\$180 billion by the end of 2010.

Ashiya (2006) evaluated developments made by electronic payments. The author evaluated different modes of e-payment used across the globe. The main objective of the study was to find the current offerings and development provided by electronic payments. The author evaluated different modes of e-payment such as plastic cards, debit cards, credit cards, smart cards, electronic cheques etc. These electronic ways provided an excellent instrument for payment system. The author analyzed that security was the main concern among electronic payments. However, e-payment this sophisticated technology could be used as a tool for the enhancement of customer loyalty and business of banks as it had reduced the risk & cost.

So many researches were conducted on effectiveness of e-payment and need for agriculture. But no studies were conducted on the topic effectiveness of e-payment system in agricultural sector. So the researcher is interested in effectiveness of e-payment system in agricultural sector.

III. Statement Of The Problem

India's five year plans provide so many safeguards to farmers. In all budget presentations, a considerable amount of outlay is allocated to farmers. But the condition of these groups continues to be pathetic. Agricultural development activities have gone spectacular changes since independence.

Now a day's almost all subsidies and cash benefits are given to farmers by linking their bank accounts. The schemes and services declared both by central government and state government were transferred to the ultimate farmers with the help of KrishiBhavans. But from January 1, 2012 the fund distribution through KrishiBhavan is changed to e-payment. Only those farmers who have a bank account of their own can avail benefits from government. As we know, most of the agricultural people are illiterate or less educated they are not fully aware of the banking transactions. So, they face a difficulty in accessing funds through the system of e-payment.

The present study is done on the basis of a simple survey of 200 farmers in Kannur District. This study checks whether the objectives framed by the government by changing the mode of payment is achieved or not, the accessibility of services after the e-payment system, whether the farmers are satisfied with the new mode of payment of fund distribution; all this helps to understand the accessibility and effectiveness of fund distribution through e-payment in agricultural sector.

IV. Significance Of The Study

E-payment has a success history. Because of that, government adopted this in agricultural sector also. But the people in agricultural sector are more or less educated and less developed, they are not fully aware of the system.

It is expected that under the e-payment system subsidy amount will be directly deposited in bank accounts of the beneficiaries to plug leakage. But at present a major portion of the population in India does not have access to banking services.

The change in the mode of payment makes many difficulties to both authorities and beneficiaries. The employees of KrishiBhavan are not properly trained about the new system. So, many clerical errors take place while linking the bank accounts. Farmers are also facing many difficulties.

The complaints by farmers, employees and officers are reported in leading news papers. So, this study is significant as it evaluate the effectiveness of e-payment system in agricultural sector. This study is helpful the government to know whether the objective behind launching the new system is achieved or not.

V. Objectives Of The Study

- To study the awareness about e-payment system among farmers.
- To analyze the promptness of reaching funds after the implementation of e-payment system.
- To examine whether agricultural activities are interrupted due to the implementation of e-payment system.
- To know whether farmers use the amount of subsidy fully for agricultural purposes.

VI. Scope Of The Study

The fund distribution in agricultural sector is done through e-payment system, which is established few years ago. The scope of this study is limited to Kannur District, Kerala, India. The economy of the District is an agrarian economy. Agriculture provides income and employment to the majority of the population. This study analyzes the effectiveness of e-payment system in agricultural sector by taking two hundred farmers as samples.

VII. Research Methodology

To carry out the study following research methodology will be adopted

Universe: the universe of the present study consists of all the online shopping customers.

Area of Investigation: Kannur District, Kerala

Sampling Size: 200 customers

Sampling Method: Convenience Sampling

Data Collection: The study is based on primary as well as secondary data. Primary data has been collected through questionnaire by direct personal interview and secondary data from published journal, magazines, various books and world wide web etc.

Data Analysis: The collected data are analyzed through statistical techniques like percentage Analysis, Ranking Method, and Likert Scale.

VIII. Data Analysis And Interpretations

Table No 1 Sex wise classification of farmers

Sex	No. of respondents	Percentage
Male	158	79
Female	42	21
Total	200	100

Source: field survey

Table No. 1 shows that majority of the respondents are male farmers.

Table No 2 Age wise classification of farmers

Age group	No. of respondent	Percentage
Below 30	12	06
30 – 50	96	48
Above 50	92	46
Total	200	100

Source: field survey

Table No 2 shows that majority of the farmers are above 30 years of age.

Table No 3 Educational qualification of farmers

Education	No. of respondent	Percentage
No formal education	32	16
Primary education	76	38
S.S.L.C.	62	32
Plus two / Pre degree	18	9
Graduation	8	4
Post graduation	4	2
Total	200	100

Source: field survey

Table No 3 shows that majority of the farmers have only the primary education.

Table No 4 Number of farmers getting subsidy

Getting subsidy	Number	Percentage
Yes	176	88
No	24	12
Total	200	100

Source: field survey

Table No 4 shows that majority farmers getting subsidies from government.

Table No 5 Details of bank account

Bank account	Number	Percentage
Having bank account	200	100
Does not having bank account	0	0
total	200	100

Source: field survey

Table No 5 shows that all the farmers have bank accounts in any of the banks.

Table No 6 Purpose of opening bank account

Purpose	Number	Percentage
Opened for subsidy	112	56
Existing account	88	44
total	200	100

Source: field survey

Table No 6 shows that many farmers have opened the bank accounts for getting subsidies.

Table No 7 Type of bank account used by farmers

Type	Number	Percentage
Nationalized bank	40	20
Cooperative bank	44	22
Gramin bank	116	58
Any other	0	0
Total	200	100

Source: field survey

Table No 7 shows that majority of the farmers are depending Gramin banks or neighbor banks.

Table No 8 Distance to bank

Distance (k.m.)	Number of farmer	Percentage
Less than 2	28	14
2-5	62	31
5-10	54	27
More than 10	56	28
Total	200	100

Source: field survey

Table No 8 shows that majority of the farmers have some distances from their home to their bank branches.

Table No 9 Number of farmers having ATM card

Having ATM card	Number of Respondents	Percentage
Yes	64	32
No	136	68
Total	200	100

Source: field survey

Table No 9 shows that majority of the farmers doesn't have ATM cards.

Table No. 10 Way of knowing information about arrival of money

Category	number	Percentage
Phoning to bank	48	24
Direct enquiry	92	46
Mobile message	28	14
From KrishiBhavan	32	16
Any other	0	0
Total	50	100

Source: field survey

Table No 10 shows that majority of the farmers directly enquires to know about the arrival of money.

Table No. 11 Change in amount after e-payment system

Amount	Number	Percentage
Increased	132	66
Decreased	0	0
No change	68	34
Total	100	100

Source: field survey

Table No 11 shows that there is an increase in the subsidy received by the farmers after the introduction of the e-payment system.

Table No 12 Awareness about current money status

Awareness	Number	Percentage
Aware	156	78
Not aware	44	22
Total	200	100

Source: field survey

Table No 12 shows that majority respondents are aware about present money status.

Table No 13 Whether the scheme made familiarity in banking transaction

Opinion of respondent	Number	Percentage
Yes	48	24
No	152	76
Total	200	100

Source: field survey

Table No 13 shows that e-payment scheme helped farmers to get familiarity in banking transactions.

Table No 14 Opinion about delay in receiving subsidies through e-payment system

Delay	Number	Percentage
Having delay	200	100
No delay	0	0
Total	200	100

Source: field survey

Table No 14 shows that there is a delay in receiving subsidies even after the implementation of e-payment system.

Table No 15 Opinion about the frequency of delay

Delay	Number	Marks
Regularly	116	348
Sometimes	68	136
Rarely	16	16
Total	200	500
Mean value = 2.5		

Source: field survey

Table No 15 shows that on an average there is a regular delay in receiving subsidies from the government.

Table No 16, Reason for delay in getting subsidies

Reasons	Rank 1	Rank 2	Rank 3	Rank 4	Total Marks	Average Marks
Clerical error by Krishihavan officer	40	36	48	76	440	2.2
Error in application forwarded	64	72	40	24	576	2.88
Problem of bank	28	40	72	60	436	2.18
Delay in depositing money by the authorities	68	52	40	40	548	2.74

Table No 16 shows that the reason for delay in getting subsidy is mainly due to error in application and delay in depositing money by the authorities

Table No 17 Interruption in agricultural activities because of delay in subsidy

Interruption	No. of respondents	Marks
Always	68	340
Almost	54	216
Often	44	132
Rarely	23	46
Never	11	11
Total	200	745
Mean value = 3.725		

Source: field survey

Table No 17 shows that almost there is an interruption in agricultural activities because of delay in subsidy.

Table No 18 Awareness about the scheme

Awareness	Number of respondent	Marks
Aware	16	48
Neutral	56	112
Not aware	128	128
Total	200	288
Average = 1.44		

Source: field survey

Table No 18 shows that the awareness about the provisions of the scheme is very less.

Table No 19 Opinion about the difficulty in procedure of e-payment

Faced difficulty	Number	Percentage
Yes	156	78
No	44	22
Total	200	100

Source: field survey

Table No 19 shows that majority of the respondents faced difficulty in the new system of e-payment.

Table No 20 Additional expenses due to e-payment system

Item	Number of respondent	Percentage
Transportation charges	68	34
Banking charges	44	22
Loss on work days	88	44
Total	200	100

Source: field survey

Table No 20 shows that the farmers incurs additional expenses due to the e-payment system.

Table No 21 Utilization of subsidy

Utilization	Number of respondent	Percentage
Fully for agricultural purpose	24	12
Partly for agricultural purpose	140	70
Not at all for agricultural purpose	36	18
Total	200	100

Source: field survey

Table No 21 shows that the purpose of utilization of subsidy amount. It is important to note that only 12 per cent of farmers are using the whole amount of subsidy for agriculture itself. 70 per cent farmers use the amount partly for agricultural purpose and partly for other purposes.

Table No 22 **Opinion about whether the amount of subsidy is sufficient or not**

Sufficient	Number of respondent	Percentage
Yes	0	0
No	200	100
Total	200	100

Source: field survey

Table No 22 shows that 100 per cent of farmers are of the opinion that the amount of subsidy is not sufficient for the purpose of agriculture.

Table No 23 **Satisfaction about time of receipt of subsidy**

Getting when needed	Number of respondent	Marks
Always	12	60
Almost	21	84
Often	35	105
Rarely	43	86
Never	89	89
Total	200	424
Average = 2.12		

Source: field survey

Table No 23 shows that the respondents are getting subsidy occasionally.

Table No 24 **Whether e-payment system is more secure than traditional system**

Secured	Number of respondent	Mark
Fully secured	16	80
Secured	32	128
Neutral	64	192
Unsecured	56	112
Fully unsecured	32	32
total	200	544
Mean value = 2.72		

Source: field survey

Table No 24 shows that they are neutral in their opinion to the statement that e-payment system is secured than traditional system.

Table No 25 **E-payment system is faster than traditional system**

Response	Number of respondents	Marks
Strongly agree	24	120
Agree	32	128
Neutral	84	252
Disagree	34	68
Strongly disagree	26	26
Total	200	594
Mean value = 2.97		

Source: field survey

Table No 25 shows that the respondents are in the opinion that e-payment system is same as traditional method in its speed.

Table No 26 **Preference to e-payment system**

Preferring e-payment	Number of respondent	Percentage
Yes	76	38
No	124	62
Total	200	100

Source: field survey

Table No 26 shows that the farmers are not preferring e-payment system when compared to traditional system.

Table No 27 **Satisfaction with e-payment system**

Category	Number of respondent	Percentage
Highly satisfied	12	60
Satisfied	32	128
Neutral	36	144

Dissatisfied	68	136
Highly dissatisfied	52	52
Total	200	520
Average = 2.6		

Source: field survey

Table No 27 shows that the respondents are neutrally satisfied with the e-payment system.

IX. Findings Of The Study

- Majority of the respondents are male farmers.
- Majority of the farmers are above 30 years of age.
- Majority of the farmers have only the primary education
- Majority farmers getting subsidies from government
- All the farmers have bank accounts in any of the banks
- Many farmers have opened the bank accounts for getting subsidies
- Majority of the farmers are depending Gramin banks or neighbor banks
- Majority of the farmers have some distances from their home to their bank branches.
- Majority of the farmers doesn't have ATM cards.
- Majority of the farmers directly enquires to know about the arrival of money.
- There is an increase in the subsidy received by the farmers after the introduction of the e-payment system.
- Majority respondents are aware about present money status
- E-payment scheme helped farmers to get familiarity in banking transactions
- There is a delay in receiving subsidies even after the implementation of e-payment system
- On an average there is a regular delay in receiving subsidies from the government
- The reason for delay in getting subsidy is mainly due to error in application and delay in depositing money by the authorities
- Almost there is an interruption in agricultural activities because of delay in subsidy
- The awareness about the provisions of the scheme is very less
- Majority of the respondents faced difficulty in the new system of e-payment
- The farmers incurs additional expenses due to the e-payment system.
- Only 12 per cent of farmers are using the whole amount of subsidy for agriculture itself
- 100 per cent of farmers are of the opinion that the amount of subsidy is not sufficient for the purpose of agriculture.
- The respondents are getting subsidy occasionally
- They are neutral in their opinion to the statement that e-payment system is secured than traditional system.
- The respondents are in the opinion that e-payment system is same as traditional method in its speed.
- Many of the farmers are not preferring e-payment system when compared to traditional system
- The respondents are neutrally satisfied with the e-payment system

X. Limitations Of The Study

The main limitations of the study are

- The study is based on primary data and so it has all the limitations of primary data.
- Sample size of the respondents for the surveys undertaken is small. Hence findings of the study cannot be applied universally.
- The study depends entirely on the responses of the farmers.
- The conclusions and interference are drawn only on the basis of the data received from the questionnaires and it may be colored by personal bias.

XI. Conclusion

Agriculture is the backbone of our economy. So, to strengthen the agricultural sector government implemented many schemes and subsidies. Fund distribution in India faced many defects and problems. In order to find solutions for this problems government introduced Direct Benefit Transfer (DBT) scheme under which the funds are directly credited to the accounts of beneficiaries. In agricultural sector DBT is applied from 1 January 2013. From that date all transactions are done through e-payment. But, unlike other sectors, this does not show a good result in agricultural field. Most of the farmers are not satisfied with the new mode of payment. There is frequent delay in receiving amount that may cause interruption of agricultural activities. Another fact is that the farmers are not utilizing the amount of subsidy wholly for agricultural purpose. But, by implementing e-payment, leakages are removed that is one of the major objectives of implementing the e-payment system.

XII. Suggestions

- To make the system transparent, the KrishiBhavan officers and employees should be well informed about the schemes and procedures.
- Government may take adequate steps to educate the beneficiaries about the key provisions of the scheme as there are many farmers who are unaware of the key provisions of the scheme.
- More computers should be provided in KrishiBhavan to avoid delays.
- The employees of the KrishiBhavan should be properly educated about the linking of bank accounts and other application procedure to eliminate clerical error.
- Government should declare and distribute funds at proper time, so that agricultural activities are uninterrupted.
- The system of zero balance account should be provided in all banks to farmers.
- ATM card must be provided to all account holders.
- KrishiBhavan authorities should visit the land of beneficiaries to ensure that the whole amount of subsidy is utilized for agricultural activities only.
- To prevent the loss of workdays of farmers, more morning-evening branches of banks should be opened.
- Separate less costly accounts may be opened for receiving subsidy, so that bank charges can be reduced

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