SHORT COMMUNICATION

Effectiveness of Public Private Partnership model of dairy farming in Haryana

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Abstract: A study was undertaken to assess effectiveness of Public Private Partnership (PPP) model in dairy farming in three districts representing three different agro climatic zones of Haryana namely Kaithal, Hissar and Mahendragarh during 2017-18. Total 225 respondents were selected out of which 45 were private functionaries, 30 public functionaries and 150 were farmers. Interview schedule was used to elicit the response from them. Ex-post facto research design was used for study. An effectives index was developed in order to assess the effectiveness of PPP model in dairy farming. Study revealed that Effectiveness index score of farmers about utility and access to technical services was highest (0.62) which shows that farmers are able to access the technical services in dairying effectively through PPP approach although the main role of Gopal (private extension functionary) was focused on delivering AI services. Farmer’s effectiveness index score on profit maximization was 0.60 which show that farmers considered PPP to be effective in realizing maximum profit. Effectiveness index score of transparency was very low (0.48) which indicate that farmers expectation on transparency in service delivery was still very high. The findings suggest the further improvement of effectiveness of PPP model through focus on capacity building, better transport facility for Gopal, effective monitoring by public extension functionaries, periodic coordination meeting and village level veterinary camp.

Keywords: Effectiveness index, Field Extension functionaries, Public Private Partnership

India is primarily an agrarian country wherein crop and dairying are the major farm enterprises. The dietary habit related to milk and milk products, endowed with diverse culture and festivals provide enormous opportunities for horizontal growth concerning 70 million farm families in the country. Although India has highest livestock population of 512.06 million (19th livestock census, 2012) in the world, milk productivity is abysmally low. In order to boost the milk productivity, Government has spearheaded many schemes and programmes but many of them could not ensure the desired level of performance. This could probably due to poor adoption of good management practices, difficulty in accessing appropriate technologies and constraints in extension delivery system (Hegde, 2012) at farm level, apart from developments in other sectors, changing priorities and emerging trends at national and global level (Ponnusamy and Pachaiyappan, 2018). Moreover, currently, dairy sector is facing high input costs for milk production, lack of infrastructure for handling, transport, processing and marketing. The demand for milk in India is projected to increase to 191.30 MT in 2020. It is essential to bring new insights in the extension programmes to motivate the farmers by ascertaining the push and pull factors of the impact on the ongoing and just completed development programmes in the dairy sector. Currently, Public Private Partnership is one of the best experimented strategies to achieve the specified goals within the time frame and modernize public services and infrastructure in agriculture/dairying, health, science and technology, education, infrastructure development and extension (Ponnusamy, 2013).PPP can be understood as collaborative effort between public and private sector in which each sector contributes to planning, resources, knowledge and capacities needed to accomplish mutual objectives. So it is necessary to evaluate the effectiveness of PPP model in dairy farming to assess the extent of effectiveness of PPP model which could fulfill the desired expectation. Hence by keeping all these in mind, present study was undertaken to assess the effectiveness of PPP model in dairy farming.

The present study was undertaken in Kaithal, Hissar and Mahendragarh districts which were selected to represent three different Agro-climatic zones of Haryana, where a PPP model is operating and providing service in the field of dairying during 2017-18. The study aimed at assessing effectiveness of PPP model
running in Haryana by collaborative effort of JK Trust which runs Gram Vikas Yojna and Haryana government. Interview schedule was used for collecting the primary data. The ex-post facto research design was followed for the study with 225 respondents, comprising 30 respondents from public extension functionaries, 45 respondents from private extension functionaries and 150 beneficiaries who were selected through proportionate random sampling to represent real population of study. An effectiveness index was developed to assess effectiveness of PPP model. The PPP effectiveness has multidimensional aspects. Effectiveness Index was developed by incorporating 32 indicators under dimensions related to PPP model i.e Utility and access to technical services, Access to Advisory services, Access to market, Cost reduction, Profit maximization, Transparency, Generation of employment and Risk reduction based on opinion of experts from the field of social science. Therefore, it is important to select indicators, which could represent the intended dimensions of the study. The availability of appropriate literature and through discussion with experts in relevant field played an important role in the identification of these indicators. It was decided to give specific weights (Scale Values) to each dimension of the effectiveness Index based on their perceived significance. The Normalized Rank Order Method suggested by Guilford (1954) was used for determining the scale values. As per the method, eight different indicators of effectiveness index were ranked by the group of judges according to their perceived significance in determining the effectiveness about PPP. Ranking was obtained from judges who are experts in the field of social science. For making indicator scale free following methods were applied:

\[ U_{ij} = \frac{X_{ij} - \text{Min} X_{ij}}{\text{Max} X_{ij} - \text{Min} X_{ij}} \]

(1)

\[ U_{ij} = \frac{\text{Max} X_{ij} - X_{ij}}{\text{Max} X_{ij} - \text{Min} X_{ij}} \]

(2)

Where

- \( i = 1, 2, 3, \ldots, n \) indicators
- \( j = 1, 2, 3, \ldots, n \) dimensions of PPP model related to dairy
- \( X_{ij} \) value of \( i^{th} \) indicator of \( j^{th} \) dimension

Equation (1) was applicable to indicators which was positively related to effectiveness of PPP and equation (2) was applicable to indicators which was negatively related to effectiveness of PPP.

The relevancy weightage (RW) and mean relevancy score (MRS) were calculated. The indicators with the statement having RW > 0.70 and MRS > 2.25 were considered for incorporating into effectiveness index. Effectiveness index was developed and it was found that score of dimensions ranged from 0 to 1. The responses of farmers were recorded on this effectiveness index.

The effectiveness of PPP in dairying was evaluated under following dimensions and depicted in Table 1.

Public private partnership is very helpful in providing utility and access to technical services. The details are depicted in table 1. Effectiveness index score of farmers about utility and access to technical services was highest (0.62) which shows that farmers are able to access the technical services in dairying effectively through PPP approach although the main role of Gopal was focused on delivering AI services. On the basis result obtained from analysis of data this can be further thought that instead of evaluating effectiveness of PPP in terms of AI services, the better option can be evaluating PPP in terms of number of calves born.

Farmers need advisory support like guidance of new technologies, new schemes and programmes to run their farm with maximum profit and minimum risk. The effectiveness index score of (0.53) shows that farmers had considered PPP as less effective in providing advisory services about various dairy related practices. When Gopal visit the client’s farm he tends to provide advisory services when farmers seek the same. This can help Gopal to get more trust worthiness about their service delivery.

Effectiveness index score of access to market was (0.57) which shows that farmers considered PPP as moderately effective in providing access to market and various market related information like price of the products, customer availability and future scope for milk and milk products. Higher milk productivity and healthy calves production would enable farmers to get remunerative market.

Farmers did not consider PPP as much effective in reduction of cost in dairy farming. Effectiveness index score of farmers about cost reduction was 0.58 which indicates that PPP is moderately effective in reducing the cost as main role of Gopal remains in providing doorstep AI services. The cost reduction is mostly possible based on the interventions in nutrition and labour management of dairy farming.

Farmers are having very limited resources and low level of input usage. So they need those technologies which can help them in maximizing the profit with least investment cost. Farmers’ effectiveness index score on profit maximization was 0.60 which show that farmers considered PPP to be effective in profit maximization (Ponnusamy et al, 2017). However cost reduction and productivity enhancement are closely related to realize higher profit margin in dairy farming.

The lay inseminators often were reported to cheat the farmers especially with respect to semen quality. Therefore transparency in service delivery is very much essential. Effectiveness index
score of transparency was very low (0.48) which indicate that farmers expectation on transparency in service delivery is still very high. The monitoring mechanism in the PPP model should take care of building transparency aspects.

Effectiveness index score of generation of employment was 0.51 which indicate that farmers considered PPP to be less effective in providing employment to people if we consider overall employability but in term of educating unemployed youth as Gopal employability is effective. However, there was not much scope to generate more employment among farmers on the basis of this PPP approach.

Effectiveness index score of risk reduction was 0.54 which indicate that farmers do not consider PPP as very much effective in risk reduction in dairy farming, although it can able to reduce the risk to some extent due to sharing nature of PPP model. Compulsory insurance, diversification in composition of animals and farm enterprises and assured market price can reduce risk considerably.

Majority of the farmers (55.34%) were having medium level of effectiveness of PPP according to the effectiveness index, while 24.66 per cent belong to low level of effectiveness. This indicates that there is considerable scope to strengthen this PPP model in dairying as this will ultimately address the skilled manpower shortage in the animal husbandry sector. The major focus should be on capacity building of private extension functionaries on scientific dairy management practices, period coordination meeting between public and private players and incentives for better performance of private players which will further motivate them and enhance the productivity.

### Conclusions

Main purpose of this study was to assess the effectiveness of PPP model in dairy farming. The findings indicated that the PPP model has inherent weakness especially the aspects related to the job security of private extension functionaries, accountability to the assigned tasks and lack of adequate mechanism to monitor the PPP activities at different levels. Moreover, their services are limited to only AI services and pregnancy diagnosis. So there is a tremendous scope for improving the effectiveness of extension delivery through PPP approach which needs further focus on capacity building, better transport facility, effective monitoring, periodic coordination meeting and village level veterinary camp.

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### Table 1 Distribution of farmers as per scores obtained on the effectiveness Index

| S. No. | Major indicators                         | Effectiveness Index score |
|-------|------------------------------------------|---------------------------|
| 1.    | Utility and access to technical services | 0.62                      |
| 2.    | Access to advisory services              | 0.53                      |
| 3.    | Access to market                         | 0.57                      |
| 4.    | Cost reduction                           | 0.58                      |
| 5.    | Profit maximization                      | 0.60                      |
| 6.    | Transparency                             | 0.48                      |
| 7.    | Generation of employment                 | 0.51                      |
| 8.    | Risk reduction                           | 0.54                      |

### Table 2 Distribution of farmers as per the scores obtained on the effectiveness index for PPP representing the level of effectiveness

| S. No. | Category       | Frequency | Percentage |
|-------|----------------|-----------|------------|
| 1     | Low (<0.45)    | 37        | 24.66      |
| 2     | Medium (0.45-0.60) | 83      | 55.34      |
| 3     | High (>0.60)   | 30        | 20.00      |