

ANNEXURE VI: Terms of Reference for Evaluation of Krishi Yantra Dhare (Farm Machinery Custom Hire Service Centres) Scheme

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**TERMS OF REFERENCE FOR EVALUATION OF KRISHI YANTRA DHARE
(FARM MACHINERY CUSTOM HIRE SERVICE CENTRES) SCHEME**

1. Study Title: Title of proposed study is “Evaluation of Krishi Yantra Dhare (Farm Machinery Custom Hire Service Centres) Scheme in Karnataka State”.

2. Department Implementing the Scheme:

Department of Agriculture

The programme is implemented through Charitable Trusts, Companies (Registered under Section 25 of Companies Act, 1956)/Organisations /Non-Government Organisations (NGO)/Registered Farmers Producers Organisations (FPOs) / Farm machineries Manufacturer/Individuals who are currently running Custom Hire Service Centers as franchisees provided they are registered as individual proprietor/s Firm (referred as Service providers) on a PPP model.

3. Background and the context:

Indian agriculture is undergoing a gradual shift from dependence on human power and animal power to mechanical power because increasing cost for upkeep of animal and growing scarcity of human labour. Further, use of mechanical power has a direct bearing on the productivity of crops apart from reducing the drudgery and facilitating timeliness of agricultural operations. Thus there is a strong need for taking farm mechanization. Mechanization brings in timeliness and precision to agricultural operations, greater field coverage over a short period, cost effectiveness, efficiency in use of resources and applied inputs, conservation of available soil moisture under stress conditions and provision of adequate drainage of excess rain and floodwaters. The increasing labour costs during the peak agricultural period has led to increase in the cost of cultivation of small and marginal farmers. The major constraint in mechanization is that small and marginal farmers cannot afford to purchase costly machinery and equipment. Even maintaining a pair of bullocks too has become an expensive proposition. Since the agricultural operations are time bound, Mechanization of farm activities is the need of hour to increase production and productivity. Though subsidy is being provided for farm machinery, due to prohibitive cost of farm machinery all farmers may not come forward to own them. In this context, establishment of Krishi Yantra Dhare programme is a boon to farmers. Krishi Yantra Dhare enables to overcome these constraints as they provide services of machinery on hire basis to farmers in

right time. Hence, establishment of Custom Hire and Service Centre (CHSC) is a boon for farmers. Krishi Yantra Dhare enables to overcome these constraints as they provide services of machinery on hire basis to farmers in right time. By keeping this in view, Krishi Yantra Dhare programme is being implemented from 2014-15 at hobli level with an objective of covering of all the hoblies in a phased manner. During, 2014-15 & 2015-16, 175 centres and during 2016-17, 139 centres have been established. Totally 314 centres has been operational as on date. These centres have been established in the State through functional Charitable Trusts, Companies (Registered under Section 25 of Companies Act, 1956)/Organisations/ Non-Government organisations (NGO) Registered Farmers Producers Organizations (FPOs)/Farm machineries Manufacturers/Individuals who are currently running Custom Hire Service Centers as franchisees provided they are registered as individual proprietor/s Firm on a PPP model.

Objectives of the scheme/Programme:

1. To address the constraints in land preparation activities by providing efficient land preparation Farm machinery and equipment on Custom Hire Service basis.
2. To reduce sowing/transplanting window leading to consequent reduction in harvesting window.
3. To ensure effective inter cultivation and other cultural operations.
4. To ensure effective harvesting with reduced harvest window leads to minimization of harvesting losses.
5. To encourage in-situ moisture conservation and to harness the residual moisture of kharif season for Rabi Pulses and Oilseeds.
6. To enhance the production and productivity of the crops.
7. To provide services of Hi - Tech Farm Machinery services to small farmers and marginal
8. To run the centres throughout the year effectively, efficiently and profitably.

Contents/Unit Costs/ Quantum of the benefit etc.,

Custom Hire Service Centres (CHSC) in Two Slabs: Based on the Agricultural density the Custom Hire Centers are categorized into 2 slabs, that is Slab-1 and Slab-2. The establishment period is spread over for two years and the year wise activity is specified.

Slab-1. Rs.75.00 lakhs: Farm Machineries of Rs.75.00lakhs worth are proposed to be deployed in each center. The Department of Agriculture proposes to establish 181 CHSCs during the year 2017-18 under Slab-1.

Slab-2. Rs.40.00 lakhs: Farm Machineries of Rs.40.00lakhs worth are proposed to be deployed in each center. In Malnad region (Dakshina Kannada, Udupi, Uttara Kannada, Kodagu, Shimoga and Chikmagalur-6 Districts) and in the areas where mono cropping system is common (Kolar and Chikballapur-2 Districts), wherein, Rs.75.00 lakhs worth implements may not be required. In these Districts under Slab-2 the Department of Agriculture proposes to establish 69 CHSCs during the year 2017-18.

- **Government assistance (Back ended) for each centre)revised for 2017-18) :** Of the specified total worth of the Farm Machineries, over for two years period, under Slab-1(Rs.75.00lakhs) & Slab-2(Rs.40.00lakhs) the Government contribution will be limited to an extent of 70o/o and the remaining 30% contribution will be from the Service Providers. Financial Assistance pattern spread over 2 years period is more specifically given below'

Table-I Financial Assistance Pattern (Rs. in Lakhs)

Slabs	Total amount per centre	GOK share	Service provider share	Ratio (%)	Remarks
Slab - I	75.00	52.50	22.50	70:30	Spread over for 2 years
Slab-II	40.00	28.00	12.00	70:30	

Year wise particulars are as follows:

(Rs. in Lakhs)

Year	Govt. Share	Service provider share	Total
Slab-I (Rs.75.00 lakhs)			
I (2017-18)	41.25	11.25	52.50
II (2018-19)	11.25	11.25	22.50
Total	52.50 (70%)	22.50 (30%)	75.00
Slab-II (Rs.40.00 lakhs)			
I (2017-18)	22.00	6.00	28.00
II (2018-19)	6.00	6.00	12.00
Total	28.00 (70%)	12.00 (30%)	40.00

- It is proposed to provide Rs.1.50 lakhs per centre as initial establishment grant (for Administrative/Office expenses) by the Department.
- For ongoing centres assistance will be given to purchase new or replacement of machinery. For the centres with more than Rs.10 lakh annual turnover Rs.5.00 lakh, for less than Rs.10.00 lakh annual turnover Rs.2.50 lakh per year will be given. This assistance will be given on the basis of 50% Government assistance and remaining 50% borne by the Service provider. This assistance will be extended up to 3 years from the initial establishment.

For the years 2014-15,2015-16 & 2016-17 the Government assistance was as follows:

Table-2 Financial assistance (2014-15, 2015-16 & 2016-17)

(Rs. in Lakh)

Year	Govt. Share	Service provider share	Total
First year	37.50 (75%)	12.50 (25%)	50.00
Second year	12.50 (50%)	12.50(50%)	25.00
Total	50	25.00	75.00

Institutional Arrangements made for Implementation: Krishi Yantra Dhare (Custom Hire Service Centres) programme was initiated during the year 2014-15, in order to make timely availability of Farm Machinery for agricultural and post harvest operations on nominal rental basis. Krishi Yantra Dhare centres in the State is established through functional Charitable Trusts, Companies (Registered under Section 25 of Companies Act, 1956)/Organisations/Non Government Organisations (NGO)/Registered Farmers Producers Organisations (FPOs)/Farm machineries Manufacturers/Individuals who are currently running Custom Hire Service Centers as franchisees provided they are registered as individual proprietor/s Firm is established in phased manner on a PPP model.

Hobli level survey is conducted by the Service provider within the proposed jurisdiction of each of the CHSCs. The selection of implements is based on farmers' need and prevailing cropping system. District Implements Committee headed by Chief Executive Officer, Zilla Panchyath will finalize the implements and also fix the nominal hiring charges for equipment shelved in the CHSC Centres.

Table-3 District Level Committee

1.	Chief Executive Officer, Zilla Panchayat	Chairman
2.	District Joint Director of Agriculture	Vice Chairman
3.	President of District Krishik Samaj	Member
4.	Assistant Director of Agriculture (SMS)	Member Secretary and District Nodal Officer
5.	ADAs of all Taluks	Member
6.	Two Progressive Farmers/Krishi Prashasthi Awardee.	Member
7.	Leading Farm Machinery Manufacturer in the District	Member
8.	Representative of Krishi Yantra Dhare service provider	Member
9.	Representative of University of Agricultural Sciences	Member

Monitoring Arrangements : After getting approval from District level Committee for number and type/models of equipment and their hiring charges which are shelved in the Krishi Yantra Dhare Centres by the Service Provider, requisite verification/monitoring will be done by the Department officials for the equipment shelved in the Krishi Yantra Dhare Centres.

Further, Service Provider should submit the Annual Utilization Certificate for all the financial transactions of the CHSC through Department officers and Service Provider should submit Audited statement every year to Assistant Director of Agriculture, Deputy Director of Agriculture, Joint Director of Agriculture of the districts and office of Commissioner of Agriculture at state level.

4. Evaluation -Scope, purpose and objectives

The study covers all the 335 centres operating in the State. The study covers the services provided and utilised under the Krishi Yantra Dhare Scheme implemented during 2014-15, 2015-16 & 2016-17 in the entire state of Karnataka by all the Service providers. The purpose of evaluation of the scheme is to bring out the extent of spread and utilisation of the scheme, quality standard of services provided and of the equipment shelved in the CHSC centres and customer satisfaction with the services and to find out the impact on production and productivity of farmers under different cropping systems.

5. Objectives of Evaluation:

To assess the awareness about the scheme among the small and marginal farmers. o To study the effect of Krishi Yantra Dhare (CHSC) scheme on the Agriculture on the production and productivity of the crops in Karnataka state.

- . To study the extent to which the scheme objectives are achieved.
- To study the effectiveness of services of Hi - Tech Farm Machinery services provided to small and marginal farmers and others by different service providers.
- To examine the reach of services to different categories of farmers across the districts/divisions.
- To assess the cost reduction in different farm operations and to analyse the economics of farming due to implementation of this scheme based on practical experiences of farmers through estimation of cost benefit ratio across the cropping systems in different regions. o To study whether the constraints in land preparation, inter cultivation and all the other agricultural activities by providing efficient and Hi-Tech Farm machinery and equipment on Custom Hire Service basis are addressed.
- . To examine the extent of extension support provided by the Service Providers to the farmers, and customer satisfaction with quality of support service and equipment.
- To document the best practices in operation of these centres.
- To make the demand analysis of Farm Machinery and other Hi-Tech equipment on Custom Hire basis through implementation of Krishi Yantra Dhare Programme.
- To suggest measures for making the scheme/Programme for more effective and beneficial to all the farmers at right time.

6. Evaluation Questions (Inclusive not exhaustive):

Beneficiary

1. What is the level of awareness about the scheme across the categories of farmers and across the divisions/districts in the State? Review the efforts of Government and Service providers in this direction.
2. What is the effective coverage of Krishi Yantra Dhare (CHSC) in Karnataka State? Examine the geographical spread of these Centres and their implications. What is the contribution of service providers to this coverage?

3. Study whether the constraints in land preparation, inter cultivation and all the other agricultural activities by providing efficient and Hi-Tech Farm machinery and equipment on Custom Hire Service basis are addressed.
4. What is the demand pattern for Krishi Yantra Dhare (CHSC) in different districts, whether the pattern varies across the crop zones? Examine the reasons for variations in it
5. Are the prescribed quality standards of farm machinery shelved in Krishi Yantra Dhare (CHSC) centres well maintained? Make a check list according to the one given in the annexure and assess the farm equipment available across the centres. Note the gaps and excess supplies.
6. Examine the impact of Krishi Yantra Dhare (CHSC) scheme on the Agriculture in terms of production and productivity of the crops in Karnataka state' Bring out any changes in cropping patterns among the sample farmers' Assess it across regions, social groups' gender and Slab-I & Slab- II Centres,
7. It is observed that small and marginal farmers are partly involved in debt due to purchase of farm machinery and maintenance of bullocks. Under the situation whether any reduction in personal debt is observed in the sample cases?
8. Examine the implementation of the scheme through different categories of service providers and make a comparative analysis of their performance across the districts
9. Examine the reach of services to different categories of farmers across different the districts/divisions. Are there any deviations across the districts, farmer groups? What are the reasons for the same?
10. Examine the utilisation of the facilities by women farmers across different regions and social groups. Do they face any difficulties in accessing and utilising the facilities?
11. Assess whether the small and marginal farmers, women face denial or discrimination in getting access to the machinery? What are their perspectives across regions and service providers?
12. What is the average waiting period? Find out any possibility of conglomeration among service providers to reduce the transaction costs and waiting time.
13. Assess the impact of the scheme in detail based on following indicators across Slab-I & Slab II

Table 4: Indicators

	Indicators	Before	After	Observations from control group
i.	Increase in density of tractors/ farm machinery			
ii.	Maintenance of time schedule of Agricultural operations.			
iii.	% Coverage of crops			
iv.	Reduction in harvest post harvest losses			
v.	Area under different crops			
vi.	Production from different crops			
vii.	Operational costs- activity wise			
viii.	Production per ha.			
ix.	Income per ha.			
x.	CB ratio			
xi.	Efficiency in utilization of inputs			
xii.	Any other			

14. Assess the level of satisfaction of the farmers about the scheme. Use the citizen report cards to capture the level of satisfaction. What is the opinion of different stakeholders and the community about the scheme? Get the feedback through focus group discussions.
15. Are the services provided by the service providers to farmers satisfactory? Whether demand for different types of machinery is adequately addressed?

Service Providers

16. Analyse the operational costs and efficiency of different service providers in Slab-I and Slab-II? Are there any variations in it across the agencies and within an agency across the districts? Examine the sustainability of the centres.
17. Whether the farmers pay service charges regularly? Assess their opinion regarding service charges for different categories of farm equipment.
18. What is the operational status of farm machinery? Whether repairs are taken up regularly? Make the assessment based on physical verification in sample Centres. Whether there is adequate space for storing the farm machinery?
19. Is there any Sub optimal asset capacity utilisation due to crop specific requirements in different centres? What measures are adopted to address the same?
20. Whether local survey is conducted to identify the equipment required in CHSC? How the district level committees are functioning across the districts? Review the effectiveness of

monitoring mechanism under the scheme, opinion of different service providers about their involvement in the scheme.

21. Analyse and about the implementation of the scheme. Whether the fund flow and support from the Government is timely, regular and adequate? Whether service charges are adequate for covering the costs? What are the difficulties in running the centres and starting the new centres?

General Issues

22. There is an assumption that increased farm mechanization will lead to unemployment. Examine the impact on employment in the study area. What is the impact on environment and water conservation due to the operation of the scheme and also on the fodder due to declining use of bullocks.
23. The pattern of service providers is from different categories. How far the PPP model is successful and in what mode? Develop patterns of effective partnerships.
24. Document the best practices and success stories in the field. Identify the factors that have contributed to success of any centres. Are there any failure cases? Identify the factors for the same.
25. Whether the scheme to be continued? If so whether any changes are required in implementation model?

7. Evaluation Methodology :

Table-5 Methodology

Type of data	Method of data collection	Source of information	Method and Tools
Primary data	1. Quantitative data	Beneficiaries, non-beneficiaries	Survey, Observations Citizen report cards
	2. Qualitative data	Beneficiaries, non-beneficiaries	FGD
		State level, district level, taluk level, hobli level and service providers.	IDI-interview schedules
Secondary data	Data from the department, annual Reports	Department, district and taluka levels.	On selected indicators relevant for the evaluation

Sampling Methodology

The Scheme has two slabs, Slab -I are big size centres covering diverse cropping zones and Slab-II covers small centres in mono cropping zones. The scheme is implemented in PPP mode hence the role of service provider is also important in implementation and the impact of the scheme. Further the requirement of farm machinery differs across the different agro climatic zones. Hence this factor also needs to be considered in the study.

- The sample consists of 105 centres covering all the divisions and service providers in the State.
- In addition two best performing centres at Sirwara and Arabhavi to be taken up as case studies.
- Care to be taken to cover all the 10 agro climatic zones in the State. From each Centre a final sample of 35 beneficiaries covering all the categories/ groups of small and marginal and other farmers (SC, ST, OBC, women and others) will be drawn for the study. The total number of beneficiaries in the final sample is 3750 farmers.
- Control sample of 1 % (max 50) farmers randomly across different service providers' operating areas.
- The Total sample is 3800 beneficiaries.
- Random Sample Selection to be done at KEA

The distribution of the Centres across the service providers is indicated in the following table.

Table -6 Division/district wise and Service provider wise distribution of the sample

Sl.No.	Service Providers	Centres
1.	SKDRDP	46 (12Slab-I)
2.	ISAP	03
3.	VST	18 (Slab-I)
4.	JOHN	12
5.	KALA	08
6.	M & M	18
Total		105+2*=107

*case studies

Table-7 Agro Climatic Zone wise distribution of the sample

Slab-I

Sl.No.	Zones	Talukas	Talukas in sample
1.	North Eastern Transition Zone	07	05
2.	North Eastern Dry Zone	11	07
3.	Northern Dry Zone	35	22
4.	Central Dry zone	17	11
5.	Eastern Dry zone	24	15
6.	Southern Dry Zone	19	12
7.	Southern Transition zone	13	08
8.	Northern Transition zone	14	09
Total			90

Slab-II

Sl.No.	Zones	Talukas	Talukas in sample
9.	Hilly Zone	22	10
10.	Coastal Zone	13	05
Total			15

Table 8 : Qualitative data

20 FGD's in 10 agro-climatic zones covering all the Service providers.	Beneficiaries, public representatives, SHG members, progressive farmers and knowledge persons in the Village/Hobli.
Total of 110 IDI's need to be done	IDI should cover all stakeholders – Dept officials State & district level, service providers at all centers (1 per centre). 5 at State level

8. Deliverables and time schedule

The Department of Agriculture and KEA will provide the necessary information pertaining to the study and also co-operate with the consultant organization in completing the assignment task within the stipulated time period. The concerned district and taluk officials will be instructed by the Department of Agriculture for providing the required information/data at the taluk and GP levels.

It is expected to complete the present study in 6 months time line, excluding the time taken for approvals at KEA.

Table-9 Timelines and deliverables

a. Inception Report	1 month after signing the agreement
c. Field Data Collection	3 months date of work plan Approval
d. Draft report submission	1 month after field Data Collection
e. Final report dissemination & presentation	1 month after draft report submission
Total duration	6 months

9. Qualities expected from the Report

The evaluation report should generally confirm to the United Nations Evaluation Guidelines (LINEG) "Standards for Evaluation in the UN System" and "Ethical Standards of Evaluations". The report should present a comprehensive review of the Scheme/ programme in terms of the content, implementation process, adequacy, information and access to beneficiaries. The Report should provide a scientific assessment of the impact of the Krishi Yantra Dhare scheme on the agricultural production and productivity in agriculture focusing on small and marginal farmers. The qualitative data should be used in unbiased manner to support or for further analysis of the reflections from the quantitative data. The analysis should provide adequate space for assessing the variations across the regions and social categories. Case studies to be presented to bring out the realities at the household level. The report should come out with specific recommendations based on adequate field evidence for any modifications in the programme design, content, implementing procedures, and any other modifications to bring out midcourse corrections to improve the access and impact of the Scheme/Programme.

Structure of the report

The following are the points- only inclusive and not exhaustive- which need to be mandatorily followed in the preparation of evaluation report:

By the very look of the evaluation report it should be evident that the study that of Agriculture Department and Karnataka Evaluation Authority (KEA) which has been done by the Evaluation Consultant Organization. The report should be complete and logically

organized in a clear but simple language. Besides confirming to the qualities covered in the Terms of Reference, report should be arranged in the following order:

Preliminary Part

- Title and Opening Page
 - Index
 - List of acronyms and abbreviations
 - Executive Summary- A section that describes the program, purpose and scope of evaluation, research design and methodology, key findings, constraints and recommendations.
1. Background- A section that briefly covers the history or genesis of the sector under which the programme/scheme being evaluated covered. It should give recent fact sheets taken from reliable and published sources and review of the progress of the scheme at Taluka/District level
 2. Objectives and performance of the program - This section includes the stated objectives of the program and the physical and- financial achievements of the selected program in the period of evaluation' It should cover the description or the target group, aim of the program and method of selection of beneficiaries and the physical and financial achievements.
 3. Review of literature/past evaluation reports and their findings.
 4. Evaluation Methodology - This should include research design, sample design and size, questionnaire design and pilot test, data collection and quality assurance plan.
 5. Limitations/constraints in the evaluation study. Case Studies & Best practices
 6. Case Studies & Best practices
 7. Findings of the evaluation study.
 8. Recommendations that flow from the evaluation.

Annexure:

- a. Sanctioned Terms of Reference of the study.
- b. Survey tools and questionnaires
- c. List of persons with addresses personally interviewed.
- d. Place, date and number of persons covered by Focus Group Discussion (if applicable).

- e. Table showing details of major deviations, non-conformities, digressions of the program.

10. Administrative arrangements

The core team should comprise of the following technical members (list is inclusive but not exhaustive) should possess requisite qualification and experience as stated below:

Table -10: Team to carry out the study

Principal Investigator	Post Graduate in Agriculture /Rural Development with first class /Ph.d in the subject preferable	05 years of experience in field
1 st Core team member	BE Mechanical/Electrical	Should also possess a minimum of three (3) years of experience in allied sector projects
2 nd Core team member	Post Graduate in Statistics/MCA with knowledge of Statistical analysis	3 years experience in data analysis

And such numbers that the evaluation is completed within the schedule time prescribed by the ToR

11. Cost and Schedule of Budget release:

The Output based budget release will be as follows

1. The **first instalment** of Consultation fee amounting to 30 % of the total fee shall be payable as advance to the Consultant after the approval of the inception report, but only on execution of a bank guarantee of a scheduled nationalized bank, valid for a period of at least 12 months from the date of issuance of advance.
2. The second instalment of Consultation fee amounting to 50 % of the total fee shall be payable to the consultant after the approval of the Draft report.
3. The third and final instalment of Consultation fee amounting to 20% of the total fee shall be payable to the Consultant after the receipt of the hard and soft copies of the final report in such format and number as prescribed in the agreement, along with all original documents containing primary and secondary data, processed data outputs, study report and soft copies of all literature used in the final report.

Taxes will be deducted from each payment, as per rates in force. In addition, the evaluations agency/consultant is expected to pay service tax at their end.

12. Selection of Consultant Agency for Evaluation:

The selection of evaluation agency should be finalized as per provisions of KTPP Act and rules without compromising on the quality.

13. Contact person for further details:

1. Mr.Anoop.K.G.
Mobile no. # 8277929814
Joint Director of Agriculture (Farm Mechanization section)
Commissionerate of Agriculture, Sheshadri Road, Bengaluru - 01.
2. Dr.M.A.Girish
Mobile no. # 8277929831
Deputy Director of Agriculture (Farm Mechanization & Micro irrigation)
Commissionerate of Agriculture, Sheshadri Road, Bengaluru - 01.
3. Smt.Veena.M.K.
Mobile no. # 8277929993
Agricultural officer (Farm Mechanization & Micro irrigation Section)
Commissionerate of Agriculture, Sheshadri Road, Bengaluru - 01.

NOTE:

The entire set of data was collected from 3780 farmers by adopting approved templates by KEA as per ToR. Considering experience and expertise of the PLUS Trust team members, the data collected was tabulated and analysed for various parameters, besides latest statistical tools were also adopted for analysis and interpretation of the data.

The Plus Trust Office is located in Talakaveri lay out, Amruthahalli and all team members work together through regular discussions and co-operation.

The partners in the Krishi Yantra Dhare are service providers, Department of Agriculture and farmers. The performance of the activities are evaluated by the Plus Trust as per the ToR, hence it is becomes 3rd party evaluation.