INVITATION FOR

EXPRESSION OF INTEREST

FOR

Evaluation Study in Madhya Pradesh

Small Farmers’ Agribusiness Consortium

5th Floor, NCUI Auditorium Building,

August Kranti Marg, Hauz Khas,

New Delhi 110016.

June 2012

INVITATION OF BIDS

Small Farmers Agribusiness Consortium (SFAC) seeks to carry out evaluation studies in Madhya Pradesh for

1) Evaluation of Spider Grader and Seed Treatment Drum distributed to farmers in 2011-12
2) Study of Farm Mechanization of Madhya Pradesh
3) Evaluation of “Yantradoot” villages where modern farm equipment was distributed to villages.

1. Expression of Interest is invited from suitably experienced and qualified agencies to submit detailed technical and financial proposals to carry out all the three Evaluation Studies, in accordance with TOR listed below for each study.

The qualifying criteria for submitting EOI for Evaluation study in Madhya Pradesh are:

i) The agency/consortia bidding for the project should have a minimum turnover of Rs 2.00 crores in the last financial year through the consultancy business, with a distinct focus on financial services, agriculture and rural development projects, and monitoring and evaluation related services. Copy of last audited balance sheet of the lead bidder should be provided if it alone meets the minimum turnover norm. If minimum turnover norm is met only by combining the turnover of the partners, then last audited balance sheet of all the partners should be provided.

ii) The Agency should be in the consultancy business for at least a period of 5 years, with a proven track record of project management and evaluation. A list of major projects/assignments undertaken should be provided.
iii) Preference will be given to agencies having worked with/working with State governments/PSUs/Central government ministries in the above areas.

iv) Agency should be capable of deploying a dedicated and experienced taskforce for the Evaluation study.

v) Agency should be able to carry out all the three evaluation studies.

vi) SFAC reserves the right to reject all or any of the proposals without assigning any reason thereof.

**Submission of Proposals**

Sealed offers under two-bid system (Part-I: Technical Bid & Part-II: Price Bid) are required to be submitted for the above-mentioned assignment. The Bidders must submit the Technical proposal in one envelope, which must be sealed and clearly marked “Technical Proposal”

The Financial proposal must be kept in a separate envelope, which is to be sealed and clearly marked “Financial Proposal”.

Both the envelopes must then be placed in a single outer envelope, which must be sealed and addressed to the Managing Director, SFAC, NCUI Auditorium Building, 5th Floor, 3, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi 110016.

The Outer Envelope must further be clearly marked:

“BID FOR EVALUATION STUDY IN MADHYA PRADESH”

The Bidder(s) may submit their Bids by Registered Post / Courier or in Person, so as to reach SFAC by the time and date stipulated. The responsibility of submitting the bids within the deadline rests solely with the bidder(s) and SFAC will not consider late bids under any circumstances.

2. Last date for submission of proposals is 25th June 2012 by close of office hours.
TERMS OF REFERENCE (ToR)
FOR
CONDUCTING STUDY ON STATUS OF MECHANISATION IN MADHYA PRADESH

1. BACKGROUND AND CONTEXT

Mechanization in agriculture holds the key for sustainable development in the terms of increasing the production by timely farm operations, reducing losses, reducing the cost of operations by ensuring better management of costly inputs and enhancing the productivity of natural resources besides it helps in reducing drudgery in farm operations. Mechanized agricultural practices and operations have been adopted by the farming community at varying level of adoption, which represents the varying scenario across different regions in the country.

During the last 50 years the average farm power availability in India has increased from about 0.30 kW/ha in 1960–61 to about 1.60 kW/ha in 2008–09. Over the years the shift has been towards the use of mechanical and electrical sources of power, While in 1960–61 about 92.31% farm power was coming from animate sources, in 2008–09 the contribution of animate sources of power reduced to about 14.20% and that of mechanical and electrical sources of power increased from 7.70% in 1960–61 to about 84.80% in 2008–09.

Power is needed on the farm for operating different tools, implements and during various farm operations. While mobile power is used for doing different field jobs, the stationary power is used for lifting water and operating irrigation equipment; operating threshers, shellers/decorticators, cleaners, graders and for other post harvest operations. The mobile farm power comes from human, draught animals, power tillers, tractors and self propelled machines where as the stationary power is obtained from oil engines (diesel, petrol, kerosene) and electric motors. Availability of adequate farm power is very crucial for timely farm operations for increasing production and productivity and handling the crop produce to reduce losses. With the increase in intensity of cropping the turn-around time is drastically reduced and it is not possible to harvest and thresh the standing crop, on one hand, and prepare seed bed and do timely sowing operations of subsequent crop, on the other hand, in the limited time available, unless adequate farm power is available. Similarly for precision farming, increasing area under irrigation, conservation tillage, straw management and diversification in agriculture, more power is required for water lifting and precision placement/application of agricultural inputs—seed, fertilizer, irrigation water, plant protection chemicals etc and meeting the requirements of diversified agriculture.
Department of Farmer Welfare and Agriculture Development, Government of Madhya Pradesh is interested in ascertaining the status of Farm Mechanization in the state. For this it desires to conduct a study on a sample basis to assess:

2. **OBJECTIVES OF THE STUDY**

The main objective of the study will emphasize on;

“Study the status of farm mechanization in Madhya Pradesh”

3. **SCOPE OF THE STUDY**

The scope of the study for finding out the status of farm mechanization in Madhya Pradesh will focus on the following aspects.

- Study and analysis of existing source of farm power (Human, animal, power) used for carrying out various farm operations
- Study and analysis of availability of existing sources of farm power
- Estimation of unit power availability
- Identification of gap between availability and requirement of farm power
- Time-series analysis of development/change in farm mechanization scenario
- Planning and prediction level of farm mechanization

4. **SAMPLE DESIGN**

The study will cover the State on a sample basis, where five clusters of villages covering an area of 1500 to 2000 hectares would be selected. These clusters will represent the State in terms of soil type, rainfall and agro-climatic zones. In these clusters farm ownership wise status of farm mechanization will be studied on 100% basis (about 5-6 villages per cluster, totalling to 2000 farmers per cluster).

5. **APPROACH AND METHODOLOGY**

The major steps to be followed for conducting the study are as below.

**Team Formation**

- The study team will consist of professionals specialized in agricultural engineering, and agriculture. The team will be lead by an experienced and qualified member specialized in agricultural engineering/farm mechanization.
- A team of Research Associates equipped with technical and social background will be deployed for carrying out primary and secondary data collection in the selected villages under the scheme.
- The team of Research Associates will be equipped with required capacity building inputs to ensure increased efficiency and quality of data collection process in the field.
- Guidelines will be prepared to facilitate the team members in carrying out their task efficiently.
**Desk review**

- The study team will carry out a desk review of secondary sources and other relevant materials as provided by the client. In addition, the team will search for relevant documents and literature to be found useful for conducting the study.

**Designing Research Tools**

- The research tools including the questionnaires/checklist will be developed by the study team for information collection from all stakeholders; viz. farmers, line departments, etc.
- The schedules designed for data collection along with a detailed methodology and research tools will be presented to the Department of Farmer Welfare and Agriculture Development. The changes will be incorporated to finalize the same.
- A field testing of various schedules and methodology to be adopted for carrying out data collection will be piloted initially in one village. The approach will help in learning mistakes and taking immediate action for modification in consultation with the client.
- Following research tools have been planned for information collection in the field from different sets of respondents.
  - Household survey at family level
  - Semi-structured interviews with open ended questions
  - Structured interviews
  - Focus group discussion

**Information Collection**

- The study team will have interaction with cross section of the farmers. The team will mainly interact with stakeholders’ representatives in groups. The research associates will primary focus on primary data collection from the sampled villages.
- A stratified random sampling methodology will be adopted for selection of the villages and collection of primary data through household survey, focused group discussions, direct observation in the villages. FGDs will focus on intensive interaction with different groups of farmers, etc.
- Secondary data will be collected from different stakeholders associated with implementation of the scheme. In addition to literary review, the secondary information will also be collected from other stakeholders including the training institutions.
- The study team will also identify and review the cases of higher degree of bottlenecks that prevent adoption of farm mechanization
Monitoring & Quality Control

- The supervisors will be deployed over research associates to supervise the progress and monitor the quality on regular basis.
- A mechanism will be developed to ensure quality of data collection process in the field through periodic monitoring and supervision at all levels.
- The key indicators for quality monitoring will be identified and will be monitored on periodic basis using the most appropriate tools.
- An efficient communication system will be adopted for tracking the problematic issues and deciding the corrective measures.

Documentation & Reporting

- An inception report will be submitted to the Department after initiation of field work incorporating finalized methodology, research tools, action plan, initial experiences in the field, etc.
- The data collected will be communicated immediately to the coordination office in Delhi for compilation and analysis. The process of data feeding and analysis will be designed by statistical expert in consultation of other team members.
- The structure of the report will include, background & methodology, situation analysis and key observations, SWOT analysis, Key findings, suggestive framework for improvement followed by a list of annexure
- The information collected through all sources will be compiled, analysed, documented and submitted to the client in form of draft report. The draft report will include the chapter on comprehensive framework and approaches for the design & operational improvement in the scheme.
- The study team will make a presentation of the draft report in stakeholders workshop organized centrally. The suggestions of the participants will be incorporated in the final report.

6. DELIVERABLE

The deliverables under the study will include;

- Inception Report
- Draft report
- Final report
7. **WORK PLAN**

The work Plan for Performing the Assignment will be followed as per the details given in the following table.

<table>
<thead>
<tr>
<th>Activities</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signing of agreement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study &amp; analysis of documents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development of checklist/questionnaire</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submission of inception report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information collection</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information analysis and compilation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation of draft final report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>Submission of final report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>

**1st week starts from date of Contract Signing**
8. BACKGROUND AND CONTEXT

Mechanization in agriculture holds the key for sustainable development in the terms of increasing the production by timely farm operations, reducing losses, reducing the cost of operations by ensuring better management of costly inputs and enhancing the productivity of natural resources besides it helps in reducing drudgery in farm operations. Mechanized agricultural practices and operations have been adopted by the farming community at varying level of adoption, which represents the varying scenario across different regions in the country.

During the last 50 years the average farm power availability in India has increased from about 0.30 kW/ha in 1960–61 to about 1.60 kW/ha in 2008–09. Over the years the shift has been towards the use of mechanical and electrical sources of power, While in 1960–61 about 92.31% farm power was coming from animate sources, in 2008–09 the contribution of animate sources of power reduced to about 14.20% and that of mechanical and electrical sources of power increased from 7.70% in 1960–61 to about 84.80% in 2008–09.

Power is needed on the farm for operating different tools, implements and during various farm operations. While mobile power is used for doing different field jobs, the stationary power is used for lifting water and operating irrigation equipment; operating threshers, shellers/decoricators, cleaners, graders and for other post harvest operations. The mobile farm power comes from human, draught animals, power tillers, tractors and self propelled machines where as the stationary power is obtained from oil engines (diesel, petrol, kerosene) and electric motors. Availability of adequate farm power is very crucial for timely farm operations for increasing production and productivity and handling the crop produce to reduce losses. With the increase in intensity of cropping the turn-around time is drastically reduced and it is not possible to harvest and thresh the standing crop, on one hand, and prepare seed bed and do timely sowing operations of subsequent crop, on the other hand, in the limited time available, unless adequate farm power is available. Similarly for precision farming, increasing area under irrigation, conservation tillage, straw management and diversification in agriculture, more power is required for water lifting and precision placement/application of agricultural inputs—seed, fertilizer, irrigation water, plant protection chemicals etc and meeting the requirements of diversified agriculture.
Under RKVY Department of Farmer Welfare and Agriculture Development, Madhya Pradesh has carried out a number of interventions in the State. 1000 model villages (3 villages per block) known as Balram villages have been selected in the State to demonstrate comprehensive production enhancing agriculture practices through integrated approach by convergence where, deep ploughing at regular intervals is being promoted. Use of graded seed and seed treatment is an important component to enhance productivity. These facilities are normally not available at village level. The department in its intervention has distributed Spider Grader and Seed Treatment Drums in these villages during rabi 2011-12 one in each village.

The Department of Farmer Welfare and Agriculture Development desires to conduct a study to assess this intervention.

9. OBJECTIVES OF THE STUDY

The main objective of the study will emphasize on;

“Study of Spider Grader and Seed Treatment Drum distributed in the Model Villages”

10. SCOPE OF THE STUDY

The scope of the “Study of Spider Grader and Seed Treatment Drum distributed in the Model Villages” scheme will focus on the following aspects.

- Assessment of physical and financial targets as against the plan
- Study and analysis of initiatives taken to increase awareness level of the farming community to enhance adoption of spider grader and seed treatment drum.
- Study and analysis of the current status of Spider Grader and Seed Treatment Drum
- Study and analysis of the adaptability of the scheme
- Identification of problems in operation and maintenance of the spider grader and seed treatment drum
- Assessment of the management of the operation of the assets created
- Sustainability and up-scaling of spider grader and seed treatment drum
- Documentation of key process and impacts of the scheme

11. SAMPLE DESIGN

The study will cover the entire State on a sample basis. One village each from 10% of the total 313 blocks is to be selected (i.e. 30 villages). In each of the village 100 beneficiaries would be covered. To study the adaptability of spider grader and seed treatment drum 10 non-beneficiaries (as control group) will also be interviewed.
12. APPROACH AND METHODOLOGY

The proposed evaluation and impact assessment study will be designed to assess the overall performance of the scheme with respect to its planned objectives. The major steps to be followed for conducting the study are as below.

Team Formation

- The study team will consist of professionals specialized in agricultural engineering, agriculture, statistical analysis, agricultural economist, monitoring & evaluation, etc. The team will be lead by an experienced and qualified member specialized in agricultural engineering/farm mechanization.
- A team of research associates equipped with technical and social background will be deployed for carrying out primary and secondary data collection in the selected villages under the scheme.
- The team of Research Associates will be equipped with required capacity building inputs to ensure increased efficiency and quality of data collection process in the field.
- The guidelines will be prepared to facilitate the team members in carrying out their task efficiently.

Desk review

- The study team will carry out a desk review of secondary sources and other relevant materials as provided by the client. In addition, the team will search for relevant documents and literature to be found useful for conducting the study.

Designing Research Tools

- The research tools including the questionnaires/checklist will be developed by the study team for information collection from all stakeholders; viz. farmers, implementing agency, training institutions, manufacturers, etc.
- The schedules designed for data collection along with a detailed methodology and research tools will be presented to the Department of Farmer Welfare and Agriculture Development. The changes will be incorporated to finalise the same.
- A field testing of various schedules and methodology to be adopted for carrying out data collection will be piloted initially in one village. The approach will help in learning mistakes and taking immediate action for modification in consultation with the client.
- Following research tools have been planned for information collection in the field from different sets of respondents.
  - Household survey at family level
  - Semi-structured interviews with open ended questions
Information Collection

- The study team will have interaction with cross section of stakeholders and the farmers at different levels. The team will mainly interact with stakeholders’ representatives in groups. The research associates will primary focus on primary data collection from the sampled villages.
- A stratified random sampling methodology will be adopted for selection of the villages and collection of primary data through household survey, case studies, focused group discussions, direct observation in the villages. FGDs will focus on intensive interaction with different groups of farmers, etc.
- Secondary data will be collected from different stakeholders associated with implementation of the scheme. In addition to literary review, the secondary information will also be collected from other stakeholders including the training institutions.
- The study team will identify and review the successful models/approaches, if any, that have worked well under the scheme and will examine their potential to be scaled-up.
- The study team will also identify and review the cases of higher degree of bottlenecks that prevent effective implementation of the scheme

Monitoring & Quality Control

- The supervisors will be deployed over research associates to supervise the progress and monitor the quality on regular basis.
- A mechanism will be developed to ensure quality of data collection process in the field through periodic monitoring and supervision at all levels.
- The key indicators for quality monitoring will be identified and will be monitored on periodic basis using the most appropriate tools.
- An efficient communication system will be adopted for tracking the problematic issues and deciding the corrective measures.

Documentation & Reporting

- An inception report will be submitted to the Department after initiation of field work incorporating finalized methodology, research tools, action plan, initial experiences in the field, etc.
- The data collected will be communicated immediately to the coordination office in Delhi for compilation and analysis. The process of data feeding and analysis will be designed by statistical expert in consultation of other team members.
• The structure of the report will include, background & methodology, situation analysis and key observations, SWOT analysis, Key findings, suggestive framework for improvement followed by a list of annexure
• The information collected through all sources will be compiled, analysed, documented and submitted to the client in form of draft report. The draft report will include the chapter on comprehensive framework and approaches for the design & operational improvement in the scheme.
• The study team will make a presentation of the draft report in stakeholders workshop organized centrally. The suggestions of the participants will be incorporated in the final report.

13. DELIVERABLE

The deliverables under the study will include;
- Inception Report
- Draft report
- Final report

14. WORK PLAN

The work Plan for Performing the Assignment will be followed as per the details given in the following table.

<table>
<thead>
<tr>
<th>Activities</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signing of agreement</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study &amp; analysis of documents</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholders’ analysis</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development of checklist/questionnaire</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submission of inception report</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information collection</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information analysis and compilation</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation of draft final report</td>
<td></td>
<td></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Submission of final report</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

** 1st week starts from date of Contract Signing
15. BACKGROUND AND CONTEXT

Mechanization in agriculture holds the key for sustainable development in the terms of increasing the production by timely farm operations, reducing losses, reducing the cost of operations by ensuring better management of costly inputs and enhancing the productivity of natural resources besides it helps in reducing drudgery in farm operations. Mechanized agricultural practices and operations have been adopted by the farming community at varying level of adoption, which represents the varying scenario across different regions in the country.

During the last 50 years the average farm power availability in India has increased from about 0.30 kW/ha in 1960–61 to about 1.60 kW/ha in 2008–09. Over the years the shift has been towards the use of mechanical and electrical sources of power, While in 1960–61 about 92.31% farm power was coming from animate sources, in 2008–09 the contribution of animate sources of power reduced to about 14.20% and that of mechanical and electrical sources of power increased from 7.70% in 1960–61 to about 84.80% in 2008–09.

Power is needed on the farm for operating different tools, implements and during various farm operations. While mobile power is used for doing different field jobs, the stationary power is used for lifting water and operating irrigation equipment; operating threshers, shellers/ decorticators, cleaners, graders and for other post harvest operations. The mobile farm power comes from human, draught animals, power tillers, tractors and self propelled machines where as the stationary power is obtained from oil engines (diesel, petrol, kerosene) and electric motors. Availability of adequate farm power is very crucial for timely farm operations for increasing production and productivity and handling the crop produce to reduce losses. With the increase in intensity of cropping the turn-around time is drastically reduced and it is not possible to harvest and thresh the standing crop, on one hand, and prepare seed bed and do timely sowing operations of subsequent crop, on the other hand, in the limited time available, unless adequate farm power is available. Similarly for precision farming, increasing area under irrigation, conservation tillage, straw management and diversification in agriculture, more power is required for water lifting and precision placement/application of agricultural inputs—seed, fertilizer, irrigation water, plant protection chemicals etc and meeting the requirements of diversified agriculture.
A pilot scheme is being implemented by the Government of Madhya Pradesh from 2010-11 in which 25 villages have been selected spread over 25 districts to demonstrate the benefits of comprehensive production enhancing agriculture practices through integrated approach by convergence of all the schemes.

The main objectives of the scheme are:

i) Encourage marginal and small farmers for adoption of farm mechanization
ii) Reduce the cost of agriculture production
iii) Demonstrate the use of innovations in agriculture mechanization
iv) Increase production and productivity, and
v) Establish Yantra Doot villages as Model villages.

The scheme focuses on conducting ‘Front Line Demonstration’ of various implements for soil preparation, sowing, seed treatment, inter culture as well as accessing the adoptability of implement such as straw reaper, reaper cum binder, rotavator, laser-land leveller and low lift pump seed cum fertilizer drill with ridge and furrow system in these villages.

The State Government at this point of time intends to conduct an evaluation of the Yantra Doot Scheme.

16. OBJECTIVES OF THE STUDY

The main objective of the study will emphasize on;

“Evaluation and Impact study of Yantra Doot Scheme implemented by Government of Madhya Pradesh during 2010-11 and 2011-12”

17. SCOPE OF THE STUDY

The scope of the evaluation and impact study of Yantra Doot scheme will focus on the following aspects.

- Study and analysis of criterion and indicators considered for selection of Yantra Doot villages under the scheme.
- Study and analysis of initiatives taken to increase awareness level of the farming community especially the small and marginal farmers to enhance adoption of farm mechanization in the model villages. This will include publicity material, exposure visits, farmers’ meetings, frontline demonstrations, etc.
- Assessment of physical and financial targets as against the plan.
- Change pattern with regard to adoption of farm mechanization for carrying out various farm operations as against the baseline set in under the scheme.
- Timeliness of farm operations due to adoption of farm equipments especially by the small and marginal farmers.
• Change in production, productivity and income of the farmers due to increased adoption of farm mechanization.
• Policy issues encouraging or retarding adoption of farm mechanization with regard to small and marginal farmers.
• Sustainability and replicability of the models created under Yantra Doot scheme.
• Documentation of key process and impacts of the scheme.

18. SAMPLE DESIGN

The study will be carried out on a sample basis. The sample will be a representative of the entire state, therefore, will cover 10 villages, one village from each of the divisions of the State. Farmers from these villages will be covered on 100% basis (about 3000 farmers).

19. APPROACH AND METHODOLOGY

The proposed evaluation and impact assessment study will be designed to assess the overall performance of the scheme with respect to its planned objectives. The major steps to be followed for conducting the study are as below.

Team Formation

• The study team will consist of professionals specialized in agricultural engineering, agriculture, statistical analysis, agricultural economist, monitoring & evaluation, etc. The team will be lead by an experienced and qualified member specialized in agricultural engineering/farm mechanization.
• A team of research associates equipped with technical and social background will be deployed for carrying out primary and secondary data collection in the selected villages under the scheme.
• The team of Research Associates will be equipped with required capacity building inputs to ensure increased efficiency and quality of data collection process in the field.
• The guidelines will be prepared to facilitate the team members in carrying out their task efficiently.

Desk review

• The study team will carry out a desk review of secondary sources and other relevant materials as provided by the client. In addition, the team will search for relevant documents and literature to be found useful for conducting the study.

Designing Research Tools

• The research tools including the questionnaires/checklist will be developed by the study team for information collection from all stakeholders; viz. farmers, implementing agency, training institutions, manufacturers, etc.
• The schedules designed for data collection along with a detailed methodology and research tools will be presented to the Department of Farmer Welfare and Agriculture Development. The changes will be incorporated to finalize the same.
• A field testing of various schedules and methodology to be adopted for carrying out data collection will be piloted initially in one village. The approach will help in learning mistakes and taking immediate action for modification in consultation with the client.
• Following research tools have been planned for information collection in the field from different sets of respondents.
  - Household survey at family level
  - Semi-structured interviews with open ended questions
  - Structured interviews
  - Focus group discussion

Information Collection

• The study team will have interaction with cross section of stakeholders and the farmers at different levels. The team will mainly interact with stakeholders’ representatives in groups. The research associates will primary focus on primary data collection from the sampled villages.
• A stratified random sampling methodology will be adopted for selection of the villages and collection of primary data through household survey, case studies, focused group discussions, direct observation in the villages. FGDs will focus on intensive interaction with different groups of farmers, etc.
• Secondary data will be collected from different stakeholders associated with implementation of the scheme. In addition to literary review, the secondary information will also be collected from other stakeholders including the training institutions.
• The study team will identify and review the successful models/approaches, if any, that have worked well under the scheme and will examine their potential to be scaled-up.
• The study team will also identify and review the cases of higher degree of bottlenecks that prevent effective implementation of the scheme

Monitoring & Quality Control

• The supervisors will be deployed over research associates to supervise the progress and monitor the quality on regular basis.
• A mechanism will be developed to ensure quality of data collection process in the field through periodic monitoring and supervision at all levels.
• The key indicators for quality monitoring will be identified and will be monitored on periodic basis using the most appropriate tools.
• An efficient communication system will be adopted for tracking the problematic issues and deciding the corrective measures.
**Documentation & Reporting**

- An inception report will be submitted to the Department after initiation of field work incorporating finalized methodology, research tools, action plan, initial experiences in the field, etc.
- The data collected will be communicated immediately to the coordination office in Delhi for compilation and analysis. The process of data feeding and analysis will be designed by statistical expert in consultation of other team members.
- The structure of the report will include, background & methodology, situation analysis and key observations, SWOT analysis, Key findings, suggestive framework for improvement followed by a list of annexure.
- The information collected through all sources will be compiled, analysed, documented and submitted to the client in form of draft report. The draft report will include the chapter on comprehensive framework and approaches for the design & operational improvement in the scheme.
- The study team will make a presentation of the draft report in stakeholders workshop organized centrally. The suggestions of the participants will be incorporated in the final report.

20. **DELIVERABLE**

The deliverables under the study will include:
- Inception Report
- Draft report
- Final report

21. **WORK PLAN**

The work plan for Performing the Assignment will be followed as per the details given in the following table.

<table>
<thead>
<tr>
<th>Activities</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signing of agreement</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study &amp; analysis of documents</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholders’ analysis</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development of checklist/questionnaire</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submission of inception report</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information collection</td>
<td></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information analysis and compilation</td>
<td></td>
<td></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>Presentation of draft final report</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>Submission of final report</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

**1st week starts from date of Contract Signing**