Republic of the Philippines
OFFICE OF THE SECRETARY
Elliptical Road, Diliman
1100 Quezon City

October 30, 2020

MEMORANDUM ORDER
No. 61
Series of 2020

SUBJECT: GUIDELINES IN THE PREPARATION AND EVALUATION OF FEASIBILITY STUDY FOR AGRICULTURAL AND FISHERIES FACILITIES, AGRI-FISHERIES MACHINERY AND EQUIPMENT SERVICE CENTERS, AND OTHER AGRI-FISHERIES MECHANIZATION PROJECTS

Pursuant to Item 2(d) of the DA Memorandum Order No. 29, Series of 2019, entitled, "*Ensuring the Provision and Utilization of Quality, Safe and Viable Agricultural and Fisheries Machinery and Facilities*" which states that all projects to be implemented must be properly validated and evaluated, with appropriate beneficiaries and service areas, implementation ready, and operationally feasible and viable; and to have uniformity and quality of feasibility study in agricultural and fisheries engineering that could facilitate ease of evaluation and speed up project initiation, this Office shall issue guidelines in the preparation and evaluation of feasibility study for agricultural and fisheries facilities, agri-fisheries machinery and equipment service centers, and other agri-fisheries mechanization projects.

Relative to the above premises, the following guidelines are hereby issued:

SECTION 1. *Definition of Terms*. For this Memorandum Order, the following terms shall be used:

a) *Project Feasibility Study* - an analytical report of the assessment of a project concerning its market, technical, financial, socio-economic, and management feasibilities. It is the culmination report of all the preparatory work that provides a comprehensive review of all aspects of the project before a final decision about its implementation is taken. A standard feasibility study (FS) contains the following parts which provide the basis for evaluation: (a) project summary, (b) market feasibility, (c) technical feasibility, (d) financial feasibility, (e) socio-economic feasibility, and (f) management feasibility.

b) *Agricultural and Fisheries Facilities* - refer to facilities that are used for the production, postharvest processing, storage, transport, distribution, and marketing of agricultural and fisheries commodities such as, but not limited to, solar-powered irrigation systems and other small-scale irrigation systems, wastewater system for irrigation purposes, renewable energy generation equipment and support facilities for agricultural and fisheries purposes, agro-industrial hubs, warehouses, crop processing facilities, fish ports, fish hatcheries, ice plants, farm-to-market roads, tramlines, hydroponics, and aquaponics.

c) *Agri-fisheries Machinery and Equipment Service Center (AFMESC)* - refers to a common service facility, with appropriate set of agricultural and fisheries machinery and equipment, owned and operated by a registered cooperative or business, encouraged to be established within the Strategic Agriculture and Fisheries Development Zones (SAFDZs) and/or Agrarian Reform Communities (ARCs) operated as a business enterprise, that will provide: (1) after-sales services and warranty for its clients; (2) custom plowing, harrowing, harvesting, drying, milling and other farm mechanization services; (3) repair and troubleshooting services of agricultural and fisheries machinery and equipment; and (4) training on maintenance and proper use of agri-machinery and equipment. It has the required manpower complement of Agricultural Engineers (AEs) or Agricultural and Biosystems Engineers (ABEs), and TESDA certified agri-fisheries machinery operators and technicians.[1]

d) *Other Agri-fisheries Mechanization Projects* - refer to machinery and equipment for the production, harvesting, processing, storage, manufacture, preserving, transporting, and distribution of agricultural and fisheries products. They include but are not limited to, tractors and their attachments, combine harvesters, power tillers, seeders, transplanters, sprayers, windmills/windpumps, harvesting machines, crop protection and maintenance equipment, irrigation equipment and accessories, greenhouses and other thermal conditioning equipment, livestock equipment, fisheries equipment, slaughtering equipment, meat/fisheries and crop processing equipment, postharvest machines such as milling machines, dryers, threshers, grain and other strippers, agricultural transport machinery and storage facilities including cold storage, refrigerated vans, slaughterhouses and fishing boats of three (3) gross metric tons or less.[2]

e) *Project Proponent* - entity, individual, or group of individuals organizing and pushing for the implementation of the project.

f) *Project Implementor* - entity, individual, or group of individuals establishing and operating the project. The project proponent usually becomes the project implementor at the project implementation stage. The project implementor is also called the *project owner* when referring to ownership.

g) *FS Preparer* – a qualified individual or team hired by the project proponent to conduct the FS and prepare the FS report.

h) *FS Evaluator* - qualified individual assigned to evaluate the FS by the funding agency or by an office having jurisdiction on the implementation of the project.

SECTION 2. *Scope and Coverage.* This guidelines shall serve as a reference in the preparation and evaluation of FS for locally and foreign-funded agricultural and fisheries facilities, AFMESCs, and other agri-fisheries mechanization projects with three (3) million pesos

[1] Based on Sections 9 and 13 of Republic Act (RA) No. 10601.
[2] Based on Section 3a of RA No. 10601.

investment cost or higher[3] of all DA bureaus, attached agencies and corporations, Regional Field Offices, (RFOs), and other DA implementing units.

For projects with investment cost lower than Php3.0 million, full FS is not required. However, the following need to be submitted: Project Summary, Financial Feasibility Analysis, Economic Feasibility Analysis, Financial and Economic Sensitivity Analyses. For revenue-generating projects, the following shall also be required: Income Statement, Cash Flow Statement, Balance Sheet, Liquidity and Profitability Ratios, and Break-Even Analysis.

The project proponent may aggregate similar and related small projects into one project and submit only one (1) FS. For example, similar interventions within the banner program such as proposed warehouses and solar driers could be lumped together, while small-scale irrigation projects to be implemented in different areas could be consolidated into 1 irrigation project.

SECTION 3. ***Purpose of the Project Feasibility Study***. The FS shall be prepared for any or all of the following purposes:

a) To serve as an analytical report concerning the financial, socio-economic, market, technical, and management feasibilities of a project;
b) To foresee possible project success or failure, as many projects fail due to the absence or inadequate FS;
c) To present three major viability analyses: financial, economic, and sensitivity; and
d) To quantify the metrics of financial and economic viabilities in the form of standard feasibility indicators. Specifically, these indicators are the Net Present Value (NPV), Internal Rate of return (IRR), Benefit-Cost Ratio (BCR), overall Return on Investment (ROI), and payback period.

SECTION 4. ***Feasibility Criteria.*** For revenue-generating projects like AFMESCs, wherein income has a higher priority over economic development, the financial analysis takes priority. These are projects usually owned by private entities. The project shall be deemed financially feasible if all the criteria under financial analysis below are satisfied. The financial statements, liquidity, indebtedness, profitability ratios, and break-even analysis shall be considered as secondary bases of feasibility.

For development projects like irrigation systems and farm-to-market roads, wherein economic development has higher priority over income, the economic analysis takes priority. These are projects usually owned or subsidized by the government. The project shall be deemed economically feasible if all of the non-optional criteria under economic analysis below are satisfied.

The feasibility criteria are enumerated below.

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[3] Locally funded big-ticket projects, and Official Development Assistance (ODA) grant-assisted projects with investment cost of Php2.5 billion or above, as well as ODA loan-assisted projects regardless of amount requiring National Government (NG) guarantee will be subjected to the internal DA approval process through the DA-Wide Project Clearinghouse System before endorsement to the NEDA Investment Coordination Committee/Board for approval.

Financial Analysis (main basis for revenue-generating projects):

a) Net Present Value ≥ 0
b) Financial Internal Rate of Return (FIRR) ≥ Opportunity Cost of Investment Resources (OCIR) or Prevailing Deposit Interest Rate in the Banks
c) Benefit-Cost Ratio ≥ 1
d) Payback Period ≤ Longest Acceptable Payback Period Desired by the Investor
e) Overall Return on Investment (ROI) ≥ OCIR or Prevailing Bank Deposit Interest Rate

Economic Analysis (main basis for development projects):

a) Net Present Value ≥ 0
b) Economic Internal Rate of Return (EIRR) ≥ Opportunity Cost of Investment Resources (OCIR) or Social Discount Rate (SDR)[4]
c) Benefit-Cost Ratio ≥ 1
d) Payback Period ≤ Acceptable Payback Period Desired by the Investor (optional)
e) Overall ROI ≥ OCIR or Social Discount Rate (optional)

SECTION 5. ***Required Parts of the Feasibility Study.*** The following are the required parts of the project FS (recommended FS format/template is provided in Annex A):

1. Project Summary - This capsulizes the project and its financial and economic feasibilities.

   The following information shall be provided as a minimum:

   a) General Information
      i. Project Title and Location
      ii. Funding Agency/Bank
      iii. Target Date of Implementation and Project Duration
      iv. Initial Investment Cost and Equity/Counterpart of the Proponent
      v. Loan Amount and Target Release Date, if applicable
      vi. Repayment Duration from Date of Loan Release, if applicable
      vii. Periodic Amortization, if applicable
   b) Feasibility Indicators and their Financial and Economic Values in Tabular Form
   c) Nature and Objectives of the Project
   d) Brief History and Profile of the Implementor, and
   e) Conclusion on Financial and Economic Feasibilities.

2. Market Feasibility – This deals with the demand and markets for a project's outputs, their current and expected prices, and the impact of any government policies on these outputs.

[4] SDR reflects the hurdle rate in which economic internal rate of return of a proposed project must equal or exceed for it to become an economically viable investment. The updated SDR for the Philippines is 10%.

For AFMESCs, the primary and ultimate market of the agricultural and fisheries facilities and other agri-fisheries mechanization projects are the number of hectares of the Farmers Organizations (FO)/Farmers Cooperatives (FC) owned or operated and other farms for custom hiring or servicing such as plowing, harrowing, transplanting, spraying, harvesting, etc. This may also include the market of other services that the project may provide. In line with this, the commitment of FO/FC must be secured through a memorandum of agreement or marketing agreement.

The market FS should have a strong and convincing basis that the proposed project is needed and not to compete with existing ones in the area. For AFMESCs, this must be supported by the updated inventory of agricultural machinery or facilities in the service area. The lacking agri-machinery and equipment shall also be indicated to fully mechanize the existing crop production area of the FO/FC in the market gap analysis. It is an advantage to the project proponent if the FO/FC has prepared its machinery utilization plan and this is attached as a supporting document.

The following information shall be provided as a minimum:

a) Business Model and Product/Service Description
b) Demand-Supply Projection and Market Gap Analysis
c) Market Share and Competition
d) Product/Service Pricing and Marketing Strategy
e) SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis
f) Map of competitor(s) within 20 km radius with indicated latitudes and longitudes (government-funded and privately owned with the same line of business), and
g) For AFMESC, Inventory of Agricultural Machinery or Facilities in the Service Area.

3. Technical Feasibility - This affirms that the agricultural and fisheries machinery and facilities to be procured or provided are technically viable based on the requirements and regulations of RA No. 10601 (Agricultural and Fisheries Mechanization Law). These machines must have the correct/appropriate HP sizes and complied with the technical specifications based on the requirement of the area and Philippine National Standards/Philippine Agricultural Engineering Standards (PNS/PAES) and shall be AMTEC tested.

The following shall be provided as a minimum:

a) Production/Service Process and Standards to be Complied
b) Market Availability of Facilities, Equipment, and Supplies
c) Detail of Annual Production and/or Services Rendered
d) Production/Service Environmental Requirements
e) Environmental Impact Description and Mitigation, if any - Description of the impact and corresponding mitigation, if any, and a statement whether the project and the affected area are included or excluded in the List of Environmentally Critical Projects

(ECPs) and Environmentally Critical Areas (ECAs) as provided in DENR Administrative Order No. 30, series of 2003 or DAO 03-30.

f) Attachment: Preliminary or Detailed Engineering Design, if applicable
g) Technical Specifications prepared signed & sealed by licensed AE/ABE, if applicable
h) Location Map of the Project with Road Network (class & type) within a 30-km radius
i) Complete Documents on the Right-of-Way Acquisition, if applicable

For AFMESCs, the following shall also be provided:

j) List of agricultural machinery suppliers or manufacturers in the service area
   i. product lines and AMTEC test reports if there are, Bureau of Agricultural and Fisheries Engineering (BAFE) registration;
   ii. list of services offered; and
   iii. NAMDAC accreditation for the current year
k) List/names of skilled agricultural machinery operators, mechanics, and AEs/ABEs in the service area, if there are
l) Preliminary plans and designs of the agricultural machinery shed and structure to be constructed
m) Map of each existing farm parcel (polygon mapping) of the project owner(s) with at least 4 pairs of latitude and longitude each taken at corners of the parcel, and
n) Map of existing related agricultural machinery and related infrastructure (government project & privately owned) with indicated latitude and longitudes.

4. Financial Feasibility – For revenue-generating projects, this presents information and analyses that affirm financial viability. In the case of AFMESCs, this affirms that the investment provided can be recovered from income generated like custom hiring services. For non-revenue generating projects like irrigation systems and farm-to-market roads that are service-oriented, the project need not be financially viable and the negative values in the analysis indicate the level of subsidy from the government.

   The following shall be provided as a minimum:

   a) Discussion and Tabulation of Major Financial Assumptions
   b) Feasibility Criteria
   c) Source of Financing
   d) Discussion and Tabulation of Loan Amortization Schedule, if applicable
   e) Discussion and Tabulation of Investments
   f) Discussion and Tabulation of Operating Costs
   g) Discussion and Tabulation of Benefits/Revenues
   h) Discussion and Tabulation of Financial Feasibility Analysis with NPV, IRR, BCR, Payback Period, and ROI values
   i) Discussion and Tabulation of Financial Sensitivity Analysis
   j) Valuation of Existing Agri-machinery and Other Properties Owned compliant to IFRS 13 standard prepared and certified by licensed AE/ABE, if used as collateral
   k) List of all Project Counterparts of the Implementor with Corresponding Values

l) Financial Statements for the last 3 years of the Implementor, if applicable

The following shall only be required for revenue-generating projects:

m) Discussion and Tabulation of Financial Statements
   i. Income Statement - compliant to IAS 1 standard
   ii. Cash Flow Statement - compliant to IAS 1, IAS 7 standards
   iii. Balance Sheet - compliant to IAS 1, IAS 16, IAS 38, IAS 41 standards
   iv. Notes to Financial Statements - compliant to IAS 1 standard
n) Discussion and Tabulation of Liquidity, Indebtedness, and Profitability Ratios
o) Discussion and Tabulation of Break-Even Analysis for Major Products/Services

5. Socio-Economic Feasibility – This shows the economic viability, socio-economic impact such as, but not limited to, reduction of agri-fisheries production cost, increase in yield and income, reduction in travel time, reduction of postharvest losses, generation of jobs and employment attributed to the project.

   The following shall be provided as a minimum:

   a) Discussion and Tabulation of Major Economic Assumptions
   b) Socio-Economic Impact
   c) Discussion and Tabulation of Shadow Prices of Investments
   d) Discussion and Tabulation of Shadow Prices of Operating Costs
   e) Discussion and Tabulation of Shadow Prices of Benefits/Revenues
   f) Discussion and Tabulation of Economic Feasibility Analysis with NPV, IRR, BCR
   g) Discussion and Tabulation of Economic Sensitivity Analysis
   h) Compliance to Laws and Regulations - Cite the Specific Laws and Regulations, and
   i) Social Acceptability Assessment of the Project Based on Community Consultation or Dialogue.

6. Management Feasibility - This part considers institutional or organizational setup, manpower requirements, and administrative support. This will ensure that the project will be well managed, acceptable and, if applicable, supported by FO/FC members and other project beneficiaries, and self-sustaining and expanding. For AFMESCs, it must comply with Section 13 of RA No. 10601 that there must be a minimum manpower complement of licensed AEs/ABEs and TESDA certified agri-machinery operators.

   The following documents shall be provided as a minimum:
   a) Organizational Structure
   b) Discussion and Tabulation of Staffing Pattern with Salary Scale
   c) Expertise of Managerial Personnel
   d) Positions, Functions, Qualifications and Needed Training
   e) Other Employment Benefits
   f) List and Status of Previous Government Project Granted to Implementor, if applicable

g) If the project is an AFMESC, List/Names of AEs/ABEs, Agri-machinery Operators/Mechanics and Other Project Staff to be Engaged with Supporting Documents if Any (PRC ID and License Number, TESDA NC certificate, etc.)

If the project is owned and operated by FO or FC, the following shall also be attached:

h) FO/FC Resolution Approving and Supporting the Project
i) FO/FC Institutional Development and/or Training Plan for Members and Staff
j) FO/FC Profile which includes:
   i. List of FO/FC members with corresponding farm hectarage owned, leased, or tenanted and crops planted, and the corresponding number of farm machinery and postharvest facilities owned and operated by type
   ii. List of FO/FC officers (with contact numbers) and employees, if there are
   iii. Other farm business operations and activities of the FO/FC
k) If there is a Joint Venture Agreement (JVA) between the FOs/FCs and the Professional Management Group (Group of AEs/ABEs) for the operation and management of Rice Farm Machinery Service Centers, it shall be attached

SECTION 6. ***Preparatory Feasibility Study Activities.*** The FS preparatory activities tabulated below shall be done prior to the conduct of FS.

Table 1. Pre-feasibility study activities[5]

Step	Activity
1	Verify the inclusion of the project in the priority list of the target funding agency.
2	Collect vital information: vicinity and topographic maps, and owner's contact details.
3	Conduct site visit to determine the suitability of establishing the project in the target location/site. Take GPS latitude, longitude, and elevation readings of strategic points.
4	Make initial financial and economic feasibility analyses using the closest possible data estimates and quantify these feasibility indicators: NPV, IRR, BCR, ROI, payback period. *If the project is unfeasible based on the feasibility criteria, the pre-feasibility activity stops, and no full-blown FS shall be conducted.*
5	Conduct social and institutional capacity assessment/preparation through community consultation/dialogues as to project acceptability in the community.
6	Verify the inclusion of the project in the lists of Environmentally Critical Projects (ECPs) and/or Environmentally Critical Areas (ECAs) per DENR Administrative Order No. 30, s. 2003. If included, advise the proponent that Environmental Impact Assessment needs to be conducted separately and ECC is required prior to project implementation.
7	Prepare other FS attachments (maps, resolution, etc.) based on FS required parts.
8	Comply complete documentation of Rights-of-Way (ROW), signed and notarized deed of donation, acquisition, and expropriation, if applicable.
9	Determine the necessity for Detailed Engineering Design (DED). If necessary, advise the project proponent that it needs to be prepared separately and completed prior to project implementation. In place of DED, a preliminary engineering design with cost estimate(s) can serve as an FS attachment.

[5] Adopted from Tambong, A. 2020. Training Module: Feasibility Study Preparation and Evaluation.

10	Conduct free and prior information consultation in Indigenous People areas and secure the necessary Free and Prior Inform Consent (FPIC) clearances from the National Commission for Indigenous People, if applicable.
11	Coordinate with partner agencies and institutions, if applicable.

SECTION 7. ***Process of FS Preparation***. The FS preparation process shall follow the tabulated steps below.

Table 2. The feasibility study preparation process[6]

Step	Activity
1	Check if the project can proceed to full FS preparation by checking the completion of the Preparatory FS Activities. If it was completed until the last step, the FS preparation process can proceed, otherwise it shall stop.
2	Read the provisions in the FS Terms of Reference (TOR). If no TOR is ready, it shall be prepared and signed by concerned parties.
3	Visit the proposed project site and conduct an ocular investigation.
4	Gather all the details of investments, operating costs, and benefits/revenues needed for feasibility analysis. Incorporate to the details the cost estimates, salvage values, and life spans of structures from Preliminary Engineering Design, if any, and the current valuations of all existing facilities and equipment, if any.
5	Make detailed financial and economic feasibility analyses quantifying all the non-optional feasibility indicators specified in the feasibility criteria.
6	Determine if the project is financially and/or economically feasible based on the feasibility criteria. If unfeasible, the FS preparation process may optionally stop depending on the provision stipulated in the TOR.
7	Make a go signal to the project proponent to separately prepare all the documentary requirements that are required to be attached to the final FS.
8	Do the market feasibility study.
9	Do the technical feasibility study.
10	Do the rest of the financial feasibility study.
11	Do the rest of the socio-economic feasibility study.
12	Do the management feasibility study.
13	Prepare the project summary.
14	Attach the Preliminary Engineering Design or the Detailed Engineering Design (if necessary) and other documentary attachments separately prepared by the project proponent then check for complete compliance to the TOR.
15	Print the first FS draft and submit it to project proponent for comments/correction.
16	Revise the first FS draft as commented/corrected, print the second FS draft, then resubmit it to the project proponent for the second review.
17	Revise the second FS draft as commented/corrected by the project proponent. If necessary, as stipulated in the TOR, resubmit the FS draft for further comments and/or correction, else print the final report and submit it to the project proponent.
18	The process ends.

SECTION 8. ***Scope of Work***. The scope of work in FS preparation shall comprise of the tasks specified in the Process of FS Preparation. Specifically, it shall also include preparation of

[6] Tambong, A. 2020. Training Module: Feasibility Study Preparation and Evaluation.

non-graphical technical specifications, valuations of existing properties used in the project, market research, and estimation of economic benefits. It does not include the following tasks: (1) FS preparatory activities; (2) preliminary engineering design, detailed engineering design, land surveys, and mapping; (3) preparation of documentary requirements required as attachments to the FS; (4) conduct of Environmental Impact Assessment and preparation of Environmental Impact Statement; (5) conduct of community social preparation; and (6) other jobs not specified in the Process of FS Preparation. The provision of major data on costs like equipment price and cost of structures, and revenues like price of products sold or services, shall be the responsibility of the project proponent. Minor data that are not provided by the project proponent shall be estimated by the FS preparer. Additional tasks shall be specifically stipulated in the Terms of Reference.

SECTION 9. ***Qualification of FS Preparers.*** Pursuant to Sections 5 and 27 of RA No. 10915 (Philippine Agricultural and Biosystems Engineering Act of 2016), preparation of FS of agricultural and fisheries facilities, AFMESCs, and other agri-fisheries mechanization projects is the scope of practice of AEs/ABEs, hence licensed AEs/ABEs are the professionals qualified as FS preparers. For complex or large projects that require multi-disciplinary expertise, other professionals and experts shall be engaged or hired by the project proponent, but a licensed AE/ABE shall act as the lead FS preparer.

SECTION 10. ***Standards.*** The FS shall comply with the applicable standards set by the International Accounting Standard (IAS) and the International Financial Reporting Standard (IFRS) adopted by the country that both conform with Philippine Accounting Standards. Likewise, the FS should be aligned with the viability standards and parameters in the NEDA Board's Investment Coordination Committee Guidelines and Procedures. For designs and specifications, PNS/PAES and applicable DPWH construction standards shall be complied.

SECTION 11. ***Choice of Software Tools***. To speedup FS preparation, FS preparers are encouraged to use software tools. They shall have the choice as to what FS making software tools to use (such as but not limited to MS Excel, SAS, Bytex Feasibility Analyzer, RETScreen for RE projects, Someka Excel Accounting Templates, and similar programs) or their combination as long as they comply with international accounting standards adopted by the country and other guidelines set in this Memorandum Order.

SECTION 12. ***Detailed Engineering Design (DED)***. The detailed engineering design of the project with cost estimates shall be separately prepared by the project proponent prior to the conduct of the FS to accurately determine and compute the investment cost, and the financial and economic feasibility indicators (NPV, IRR, BCR, ROI, and payback period). The DED shall be a documentary attachment to the FS and shall be prepared, signed, and sealed by AEs/ABEs and other appropriate professionals. In the absence of the DED, a preliminary engineering design with cost estimates may be attached to the FS.

SECTION 13. ***Terms of Reference.*** Terms of Reference (TOR) shall be prepared prior to the conduct of FS, shall be agreed between the project proponent and the lead FS preparer, and

duly notarized. The TOR shall comply with the provisions of this Memorandum Order. The TOR shall stipulate the following, but not limited to:

a) Qualification and field of specialization of the Lead FS preparer
b) Qualifications and specialization of the FS preparation team members, if applicable
c) Scope of work and deliverables
d) Required FS parts
e) Feasibility indicators and criteria
f) FS preparation process to be followed
g) Compliance to IAS and IFRS standards
h) Start of work and deadlines per deliverable
i) Total fee, installments by deliverables submitted, and schedule of fee releases
j) Option to discontinue the FS preparation when, during the process, the project is found to be unfeasible, and the proportional fee due based on completed deliverables
k) Percentage of the fee retained until the FS has been evaluated and approved
l) Maximum number of FS revisions excluding one post-evaluation revision, if any

SECTION 14. ***Feasibility Study Preparation Cost, Procurement, and Funds.*** The minimum cost of FS preparation shall be five (5) percent of the first fifty (50) million pesos of all project investment costs[7] plus two and a half (2.5) percent of investment cost in excess of fifty (50) million pesos regardless of the number of persons doing the work and the work duration. The investment cost shall cover all investment items that are part of the project including minor expenses, land, structures, equipment and their installation, equipment delivery insurance, tools, site development, furniture and fixtures, intangible assets, operating capital, and contingency. Procurement of services for the conduct of FS shall adhere to the provisions of the RA No. 9184 or the Government Procurement Reform Act and its Revised Implementing Rules and Regulations. The costs for FS preparation and the Detailed Engineering Design for the project shall be part of the project cost and be included in the budget of the project proponent. The funds, however, may be sourced externally. For big-ticket infrastructure projects, available FS fund facilities may be tapped from government agencies such as the Project Development and Other Related Studies (PDRS)[8] Fund of the NEDA and the Project Development and Monitoring Facility (PDMF)[9] of the Public-Private Partnership Center. Likewise, grants from development partners like the Japan International Cooperation Agency (JICA) and Korea International Cooperation Agency (KOICA) may be tapped for the conduct of the FS.

SECTION 15. ***Process of FS Evaluation and Approval.*** A standard FS Evaluation Form shall be provided by BAFE with indicated points for each part and specified minimum points as passing mark. Evaluation shall be done by the qualified staff of the implementing office.

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[7] Philippine Society of Agricultural and Biosystems Engineers authorized minimum professional fee for licensed AEs/ABEs since 2018.
[8] The PDRS Fund aims to provide a facility that will support project formulation and development of key infrastructure projects of the government.
[9] The PDMF is a funding mechanism available to agencies/LGUs for developing bankable PPP projects and ensuring effective monitoring of project implementation.

Approval shall be acted by the head of office doing the evaluation or his/her representative. The process shall follow the tabular steps below. For each step, a corresponding point is marked in the FS Evaluation Form.

Table 3. The process of FS evaluation and approval[10]

Step	Activity
1	Check the validity of license of the Lead FS Preparer. Pursuant to Sections 5 and 27 of RA No. 10915, the preparation of feasibility study of agricultural and fisheries facilities, AFMESCs, and other agri-fisheries mechanization projects is the scope of practice of Agricultural Engineers/Agricultural and Biosystems Engineers.
2	Check the completeness of the entire FS report based on the provisions of this guidelines.
3	Check if the feasibility analysis uses Life Cycle Cash Flow Accounting or if NPV, IRR, and BCR which employ money discounting are included among the feasibility indicators.
4	Check the validity or acceptability of assumptions.
5	Check for the satisfaction of the feasibility criteria including those in at least 3 sensitivity analyses for both financial and economic analyses.
6	Check for the basic compliance to the International Accounting Standard (IAS) and International Financial Reporting Standard (IFRS), such as but not limited to: a) Contains cash flow statement presenting changes in cash and cash equivalents, classified as operating, investing, and financing activities - IAS 1, IAS 7 b) Accounts property, plant/machinery, and equipment - IAS 16 c) Accounts agricultural or biological assets - IAS 41 d) Accounts intangible assets - IAS 38 e) Detailed notes to financial statements are provided - IAS 1 f) Fair value measurement - IFRS 13
7	Check the details and acceptability of market feasibility entries.
8	Check the details and acceptability of technical feasibility entries.
9	Check the details and acceptability of financial feasibility entries.
10	Check the details and acceptability of socio-economic feasibility entries.
11	Check the details and acceptability of management feasibility entries.
12	If the total points earned is within passing range, recommend the FS for approval by your head of office, else a) If the inadequacy is minor and can be rectified, return it to the proponent for revision indicating specific items that need to be revised. Go back to Step 1. b) If the inadequacy is major and cannot be rectified, recommend the FS for disapproval by your head of office.
13	The head of office approves or disapproves the FS.

SECTION 16. ***Qualification of FS Evaluators.*** Only licensed AEs/ABEs with a valid certificate of training completion or has served as training resource person on FS preparation and/or evaluation of agricultural and fisheries facilities, and mechanization projects of at least provincial level shall be qualified to do FS evaluation. The FS preparer or part of the preparation team cannot serve as FS evaluator of the same project. The FS evaluator shall be

[10] Tambong, A. 2020. Training Module: Feasibility Study Preparation and Evaluation.

designated by the funding agency or lending bank of the project from its qualified personnel or hired externally from qualified AEs/ABEs.

SECTION 17. ***Sustainability.*** The expertise of concerned offices on FS preparation and evaluation of agricultural and fisheries facilities, AFMESCs, and other agri-fisheries mechanization projects shall be sustained by establishing a national pool of experts through capacitating/training the DA RFOs and other DA implementing units to conduct FS preparation and evaluation. The RFOs shall likewise capacitate/train LGUs, lending banks, and other concerned offices. The BAFE shall prepare and issue a Procedural Manual on the FS Preparation and Evaluation.

SECTION 18. ***Monitoring and Enforcement.*** The BAFE is delegated by this Office to monitor the implementation of this Memorandum Order and coordinate with this Office in the enforcement of the same. Pursuant to Sections 24(a), 24(e), and 24(f) of RA No. 10601, BAFE is mandated to (1) coordinate, oversee and monitor the national planning and implementation of agri-fisheries engineering, farm-to-market roads, and other agri-fisheries infrastructure projects, (2) coordinate and integrate all agricultural and fisheries engineering activities of DA bureaus, attached agencies and corporations, and (3) coordinate and monitor the enforcement of standards and other regulatory policies on agricultural and fisheries engineering.

SECTION 19. ***Dissemination.*** This Memorandum Order shall be disseminated to all DA bureaus, attached agencies and corporations, RFOs, and other DA implementing units for reference, as provided in Section 2.

SECTION 20. ***Separability Clause.*** The provisions of this Memorandum Order are hereby declared separable and if any section, provision, sentence, or clause hereof should be declared invalid, such invalidity shall not affect the other provisions of this Memorandum Order.

SECTION 21. ***Repealing Clause.*** All earlier issuances from this Office which are inconsistent with this Memorandum Order are hereby modified or repealed accordingly.

This Memorandum Order shall take effect immediately.

WILLIAM D. DAR, PhD.
Secretary

DEPARTMENT OF AGRICULTURE
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with prosperous farmers and fisherfolk

Masaganang ANI Mataas na KITA

Annex A
Recommended Feasibility Study Format/Template

FEASIBILITY STUDY

<Project Title>
<Location>

<Name of Implementor>
IMPLEMENTOR

TABLE OF CONTENTS

Chapter I
PROJECT SUMMARY

General Information

Project Title and Location:

_____

Funding Agency/Bank:

_____

Target Date of Implementation and Project Duration:

_____

Initial Investment Cost and Equity/Counterpart of the Proponent:

_____

Loan Amount and Target Release Date, if applicable:

_____

Repayment Duration from Date of Loan Release, if applicable:

_____

Periodic Amortization, if applicable:

_____

Feasibility Indicators and their Financial and Economic Values

FEASIBILITY INDICATORS	FINANCIAL ANALYSIS	ECONOMIC ANALYSIS
Net Present Value (NPV), PHP	_____	_____
Internal Rate of Return (IRR), %	_____	_____
Benefit-Cost Ratio (BCR)	_____	_____
Payback Period, years	_____	_____
Overall Return on Investment (ROI), %	_____	_____
Remark (Feasible/Not Feasible)	_____	_____

Nature and Objectives of the Project

<Discussion>

Brief History and Profile of the Implementor

<Discussion>

Conclusion on Financial and Economic Feasibilities

<Discussion>

Chapter II
MARKET FEASIBILITY

Business Model and Product/Service Description

<Discussion>

Demand-Supply Projection and Market Gap Analysis

<Discussion>

Market Share and Competition

<Discussion>

Product/Service Pricing and Marketing Strategy

<Discussion>

SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis

<Discussion>

Attachments

1. Market Gap Analysis in Tabular Form
2. For Agri-fisheries Machinery and Equipment Service Center (AFMESC), this document shall also be attached:
   a) Inventory of Agricultural Machinery or Facilities in the Service Area
3. Map of competitor(s) within 20 km radius with indicated latitudes and longitudes (government-funded and privately owned with the same line of business)
4. Others, if any

Chapter III
TECHNICAL FEASIBILITY

Production/Service Process and Standards to be Complied

<Discussion>

Market Availability of Facilities, Equipment, and Supplies

<Discussion>

Projected Annual Quantities of Products/Services Completed

<Discussion>

Production/Service Environmental Requirements

<Discussion>

Environmental Impact Description and Mitigation, If Any

<Discussion>

Attachments

1. Preliminary Engineering Design with Cost Estimate, if applicable
2. Technical Specifications prepared signed and sealed by licensed AE/ABE, if applicable
3. Location Map of the Proposed Project with Road Network (class & type) within a 30-km radius
4. Complete Documents on the Right-of-Way Acquisition, if applicable
5. If the project is an AFMESC, the following shall also be attached:
   a) List of agricultural machinery suppliers or manufacturers in the service area, product lines and AMTEC test reports if there are, BAFE registration and NAMDAC accreditation for the current year
   b) List/names of skilled agricultural machinery operators and mechanics in the service area, if there are
   c) Plans and designs of the agricultural machinery shed and structure to be constructed, prepared, signed and dry sealed by licensed AE/ABE
   d) Map of each existing farm parcel (polygon mapping) of the project owner(s) with at least 4 pairs of latitude and longitude each taken at corners of the parcel
   e) Map of existing related agricultural machinery and infrastructure (government project & privately owned) with indicated latitudes and longitudes
6. Others, if any

Chapter IV
FINANCIAL FEASIBILITY

Major Financial Assumptions

<Discussion>

Feasibility Criteria

<Discussion>

Source of Financing and Loan Amortization Schedule, If Applicable

<Discussion; may include and discuss non-applicability of amortization if there is no loan>

Investments, Operating Costs, and Benefits

<Discussion>

Financial Feasibility and Sensitivity Analyses

<Discussion; discuss meaning of negative values if non-revenue generating project>

Financial Statements, Ratios, and Break-Even Analysis

<Discussion; discuss non-applicability if non-revenue generating project>

Attachments

1. Financial Assumptions in Tabular Form
2. Loan Amortization Schedule in Tabular Form, if applicable
3. Details of Investments in Tabular Form
4. Details of Operating Costs in Tabular Form
5. Details of Benefits/Revenues in Tabular Form
6. Financial Feasibility Analysis with NPV, IRR, BCR, Payback Period, ROI values
7. Financial Sensitivity Analysis in Tabular Form
8. Valuation of Existing Agri-machinery and Other Properties Owned compliant to IFRS 13 standard prepared and certified by licensed AE/ABE, if used as collateral
9. List of all Project Counterparts of the Implementor with Corresponding Values
10. Financial Statements for the last 3 years of the Implementor, if applicable
11. Others, if any

The following shall only be required for revenue-generating projects:

12. Financial Statements in Tabular Form
    a) Income Statement - compliant to IAS 1 standard
    b) Cash Flow Statement - compliant to IAS 1, IAS 7 standards
    c) Balance Sheet - compliant to IAS 1, IAS 16, IAS 38, IAS 41 standards
    d) Notes to Financial Statements - compliant to IAS 1 standard
13. Liquidity, Indebtedness, and Profitability Ratios in Tabular Form
14. Break-Even Analysis for Major Products/Services in Tabular Form

Chapter V
SOCIO-ECONOMIC FEASIBILITY

Major Economic Assumptions

<Discussion>

Socio-Economic Impact

<Discussion>

Shadow Prices of Investments, Operating Costs, and Benefits

<Discussion>

Economic Feasibility and Sensitivity Analyses

<Discussion>

Compliance to Laws and Regulations

<Discussion>

Attachments

1. Major Economic Assumptions in Tabular Form
2. Shadow Prices of Investments in Tabular Form
3. Shadow Prices of Operating Costs in Tabular Form
4. Shadow Prices of Benefits/Revenues in Tabular Form
5. Economic Feasibility Analysis with NPV, IRR, and BCR in Tabular Form
6. Economic Sensitivity Analysis in Tabular Form
7. Social Acceptability Assessment of the Project Based on the Community Consultation or Dialogue
8. Others, if any

Chapter VI
MANAGEMENT FEASIBILITY

Organizational Structure

<Discussion>

Staffing Pattern

<Discussion>

Expertise of Managerial Personnel

<Discussion>

Positions, Functions, Qualifications and Needed Training

<Discussion>

Other Employment Benefits

<Discussion>

Attachments

1. Organizational Chart
2. Staffing Pattern with Salary Scale in Tabular Form
3. Assessment of Previous Government Project Granted to Implementor, if applicable
4. For AFMESC, this document shall also be attached:
   a) List/Names of AEs/ABEs, Agri-machinery Operators/Mechanics and Other Project Staff to be Engaged with Supporting Documents if Any (PRC ID and License Number, TESDA NC certificate, etc.)
5. If the project is owned and operated by Farmers Organization (FO) or Famers Cooperative (FC), the following shall also be attached:
   a) FO/FC Resolution Approving and Supporting the Project
   b) FO/FC Institutional Development and/or Training Plan for Members and Staff
   c) FO/FC Profile which includes:
      i. List of FO/FC members with corresponding farm hectarage owned, leased, or tenanted and crops planted, and the corresponding number of farm machinery and postharvest facilities owned and operated by type
      ii. List of FO/FC officers (with contact numbers) and employees, if there are
      iii. Other farm business operations and activities of the FO/FC
   d) If there is a Joint Venture Agreement (JVA) between the FOs/FCs and the Professional Management Group (Group of AEs/ABEs) for the operation and management of Rice Farm Machinery Service Centers, it shall be attached
6. Others, if any

<u>Note</u>: APPENDICES follow this chapter