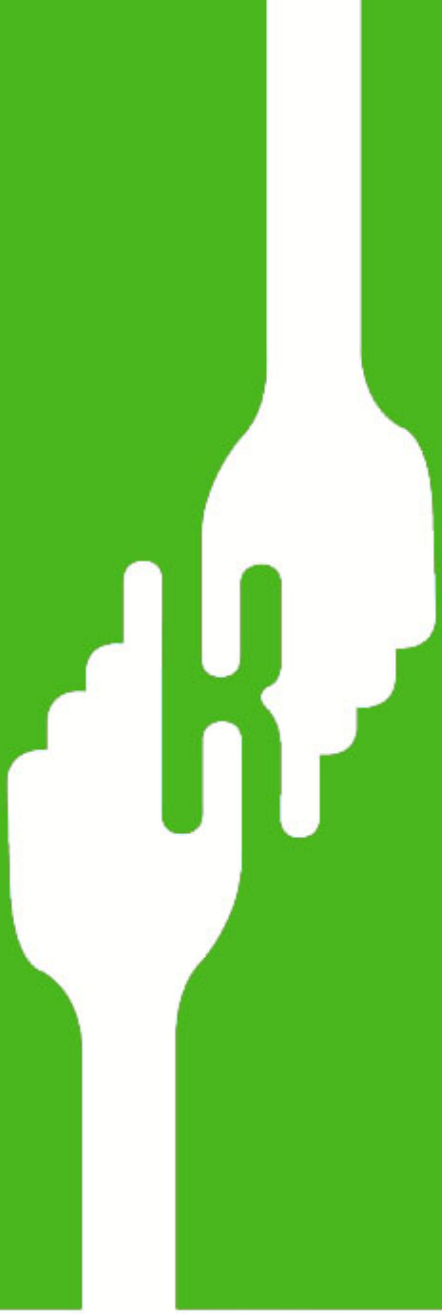

Community-Based Infrastructure Sub-projects Manual

KALAHI-CIDSS
KAPIT-BISIG LABAN SA KAHIRAPAN
COMPREHENSIVE AND INTEGRATED
DELIVERY OF SOCIAL SERVICES

Republic of the Philippines
DEPARTMENT OF SOCIAL WELFARE AND DEVELOPMENT

Preface and Acknowledgement

The implementation of KALAHI-CIDSS:KKB Project in developing and alleviating poor rural communities proved to be challenging and fulfilling to the civil engineering profession. Previous experiences during the operation and implementation of rural community sub-projects gave way to new insights on further improving the current system in order sustain the initial gains of the KALAHI-CIDDS project. With this in mind, the revision of the first infrastructure manual is timely in that it keeps abreast of the implementation activities at the community level. In addition, Agreements made with the Regional Infrastructure Engineers, previously formulated policies which were found to be effective on field operations, are all incorporated on the new version of this manual.

I have been fortunate to have worked with the Project's Regional Community Infrastructure Engineers (RCIEs) and their deputies, past and present, from the twelve (12) regions who vigilantly manage the Project's implementation. I am grateful for the field experiences they have shared that were incorporated in this manual.

Our sincerest appreciation and admiration to our national project manager, Edgar G. Pato for continuously providing us the necessary guidance and support in ensuring the project's success.

To my colleagues and Unit members at the national project management office, I extend my deepest appreciation and thanks for your patience and untiring support in making this manual revision a reality.

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KALAHI-CIDSS:KKB Project
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LIST OF ACRONYMS

AC	- Area Coordinator
ACT	- Area Coordination Team
AIT	- Audit and Inventory Team
ARCDP	- Agrarian Reform Communities Development Project
BHS	- Barangay Health Station
BRT	- Barangay Representation Team
BWASA	- Barangay Waterworks and Sanitation Association
BSPMC	- Barangay Sub-project Management Committee
BSWM	- Bureau of Soils and Water Management
CDA	- Cooperative Development Authority
CF	- Community Facilitator
CHB	- Community Health Board
CIDSS	- Comprehensive and Integrated Delivery of Social Services
CIM	- Community Infrastructure Manager
CIP	- Communal Irrigation Project
CIS	- Communal Irrigation System
CMDF	- Center for Manpower and Development Foundation
CNC	- Certificate of Non- Coverage
CO	- Community Organizing
COA	- Commission on Audit
CSB	- Community School Board
DAC	- Deputy Area Coordinator
DAO	- DENR Administrative Order
DENR	- Department of Environment and Natural Resources
DENR-EMB	- Department of Environment and Natural Resources-Environmental Management Bureau
DepEd	- Department of Education
DILG	- Department of the Interior and Local Government
DPWH	- Department of Public Works and Highways
DSWD	- Department of Social Welfare and Development
DTI	- Department of Trade and Industry
ECA	- Environmentally Critical Area
ECC	- Environmental Compliance Certificate
ECP	- Environmentally Critical Project
EIS	- Environmental Impact System
GL	- Group Leader
GOP	- Government of the Philippines
IA	- Irrigators' Association
IBRD	- International Bank for Reconstruction and Development
IEE	- Initial Environmental Examination
IRA	- Internal Revenue Allotment
KALAHI	- Kapit Bisig Laban Sa Kahirapan
KKB	- Kapangyarihan at Kaunlaransa Barangay
LGU	- Local Government Unit
LPRAO	- Local Poverty Rural Action Officer
LWUA	- Local Water Utilities Association
ME	- Maintenance Engineer
MEO	- Municipal Engineer's Office
MIAC	- MunicipalInter-Agency Committee
MIBF	- Municipal Inter-Barangay Forum
MIT	- Monitoring and Inspection Team

MOA	- Memorandum of Agreement
MPDO	- Municipal Planning and Development Officer
MRB	- Municipal Roving Bookeeper
MSWDO	- Municipal Social Welfare and Development Officer
NGO	- Non-Government Organization
NIA	- National Irrigation Administration
NPMO	- National Project Management-Operations
NWRB	- National Water Resources Board
O and M	- Operation and Maintenance
PBAC	- Pre-qualification, Bidding and Awards Committee
PCAB	- Philippine Contractors Accreditation Board
PE	- Project Engineer
PIT	- Project Implementation Team
PO	- People's Organization
POW	- Program of Works
PPT	- Project Preparation Team
PT	- Procurement Team
RCIS	- Regional Community Infrastructure Specialist
RPMO	- Regional Project Management Office
RPMT	- Regional Project Management Team
SPA	- Sub-Project Agreement
SWIP	- Small Water Impounding Project
TA	- Technical Assistance
TESDA	- Technical Education and Skills Development Authority
WB	- World Bank

GLOSSARY

The following definitions are prepared for common understanding of terms in the context of KALAHI-CIDSS Project implementation.

PROJECT refers to the KALAHI-CIDSS: a Community Driven Development (CDD) program. It aims to empower communities, improve local governance and reduce poverty.

SUB-PROJECT (SP) refers to the community projects generated through the KALAHI-CIDSS planning process. It is a set of development Activities or interventions designed, implemented, maintained by a partner community in Barangay/s in order to respond/address a need/s or problem/s identified during the Participatory Situation Analysis.

SUB-PROJECT CATEGORIES: There are 4 major categories

1. **Public Goods –** These are infrastructure Sub-Projects with the primary intent of providing Access[1]. These can be classified as *CONSTRUCTION* or *IMPROVEMENT*. Construction refers to an implementation of new facility, while Improvement means repair or rehabilitation of existing facility to improve/increase effectiveness of service. This includes upgrading of the facility e.g. Level 1 to Level II or Level III water systems, repair of an existing road including extension or opening of new section[2], Repair of School building and others. In cases where new extension or expansion exceeds 50% of the Total Estimated Sub-project Cost, it shall be classified as Construction. However, it should be clearly stated in the title and description of physical target, e.g. Construction of Two Classroom School Building with repair (Roofing of one existing classroom). Repair component should be within the vicinity/site of SP construction.

   Improvement of existing facilities should not have ongoing or current commitment of interventions.

   Types:

   a. RURAL ROADS – Small scale (Low Volume) access road intended for motorcycles and four wheeled vehicle to facilitate transport/delivery of basic commodities and services, farm inputs and produce in communities in the rural areas. It is considered a low-volume road with less than 50 vehicles per day. It connects Barangays, sitios, farmlands and serves as the main thoroughfare from farm to market or vice versa. In KALAHI-CIDSS PROJECT, there is no 'absolute' standard in terms of width and structures to be built. However, rural road subprojects will be technically designed to be responsive to the need of the community. Carriageway ranges from 3 to 4 meters depending on the volume of traffic and use of the road (e.g. if tricycle, motorcycle and small vehicles are the common transportation, a 3 meters carriageway may suffice). It is designed with sufficient drains (line ditches and cross drains) and passing bays. For details, refer to the manual.

      Basic structures that may be included are the following:

[1] ***Physical Access*** such as transport facilities e.g. roads, bridges, foot path and others; ***Social Access*** such as facilities to Education, Health, and other basic services e.g. School, Daycare Centers, Health Stations, Water System, Electrification, Tribal Housing etc…

[2] The cost should not exceed 50% of the Total Estimated Project Cost, otherwise classified as Construction.

- Cross Drainage
    - Reinforced Concrete Pipe Culvert (RCPC) with wing walls and head walls
    - Reinforced Concrete Box Culvert (RCBC) with wing walls and head walls
    - Spillway – two kinds are the *plain concrete spillway* and the *vented spillway*. Plain concrete spillway is a pavement designed to directly drain water crossing a road and protect the road from scouring. Vented spillway is provided with concrete pipes under the pavement. Water will drain through these RCPCs; when volume increases that RCPs could no longer accommodate the flow, the flow will then spill over the concrete pavement.
- Line Ditch – constructed using various materials most available in the area like concrete, ruble/grouted masonry or an earth canal.
- Portland Cement Concrete Pavement (PCPP) – constructed on road sections with more than 10% grade or swampy sections. Thickness – 150 mm; Width – 3-4 meters.
- Tire path – concrete pavement similar with PCPP but with width of 1.0 meters constructed on wheel sides only.
- Slope protection – various type of structures including grouted riprap, rubble masonry, concrete and gabion

b. RURAL BRIDGES – A small scale structures spanning and providing passage for vehicles and pedestrian over a gap or barrier, such as a river/creek or gullies. This is to connect or maintain accessibility of rural roads or pathways. Two sub-categories are <u>footbridge</u> and <u>rural road bridge</u>
    1. Footbridge – transportation access intended for human pedestrian with width ranging from 0.60m – 1.20m. Footbridges could be designed to accommodate a motorcycle.
    2. Reinforced Concrete Foot Bridge (RCFB) - structural components are mainly concrete reinforced with steel bars.
    3. CableFootBridge (CFB) – FootBridge is suspended with high tensile cable wire.
    4. RuralRoadBridge (RRB) – Three to four meters width, commonly used is the Reinforced Concrete Deck Girder Bridge (RCDG).

c. PATHWAYS – A 0.50m to 2.0 meters width access intended mainly for human pedestrian. It could also be designed to accommodate motor/tricycles.

d. SCHOOLBUILDING – A facility intended for basic education such as high school and elementary levels. Standard is adopted from the Department of Education (Dep-Ed); 7.0 m X 9.0 m floor area per class room. Basic amenities including armchairs/desks, teacher table and writing board are part of the standard in order for the facility to function upon completion.

   The standard plan for school building includes comfort rooms for males and females.

   Various materials can be used depending on what is available and appropriate in the area. For roof framing, wooden or steel frames; roof can be corrugated GI sheets or long span; ceiling can be plywood or fiber cement (ficem) board on

wooden or aluminum frames; windows can be jalousie or steel framed; wall shall be CHB or wood planks on wooden studs; completely painted

e. DAYCARECENTER – A facility intended for preparatory education. Standard floor area is 6 meters x 8 meters (48 s-m). Similar with the school subproject, basic amenities are provided. These include chairs, tables, shelves, writing board and others. Comfort rooms (male & female) and lavatory are also provided. Locally available materials are considered. For details, refer to the standard plan.

f. BARANGAYHEALTHCENTER – A facility intended for basic health services in a Barangay/s. Standard floor area is 6 m X 8 m (48 s-m) adopted from the Department of Health (DOH). Basic amenities are integrated in the standard design. These include delivery table, consultation table, medicines kits, weighing scales and other basic equipment.

g. WATER SYSTEM – A facility technically designed to convey potable water to communities. Two common types are gravity and pump driven systems. Systems using renewable energies such as ramp pump, wind mill, rain collectors and solar panels are encouraged, however, viability of any proposed system must be considered. A thorough study including hydraulic analysis must be conducted to ensure technical viability of any proposed water system.

There are three levels of a water system.

1. LEVEL 1 – Direct supply is drawn from the source; no transmission/distribution line e.g. hand pump, dug wells, springs.
2. LEVEL II – Water supply is conveyed to the users/communities through transmission/distribution pipe line. Common tap stand are strategically shared by 7 – 10 households.
3. LEVEL III – Similar with level II only that households are connected directly to the distribution lines.

h. RURAL ELECTRIFICATION – Subprojects that brings electrical power to rural areas.

1. On – Grid Electrification – electrical power is supplied by electric cooperatives such as BOHECO in Bohol, DANECO in Davao provinces, QUEZELCO in Quezon province, etc.
2. Off-Grid – electrical power is supplied using generators not greater than 10 KVA. Power supply is intended for lighting and small electrical equipments such as radio. This is advisable for small communities or household groupings of not greater than 30 households. The load limit is recommended considering operation and maintenance capacity of rural communities.

3. Renewable Energy – electrical power is supplied by natural resources such as sunlight, wind, waterfalls, and others. While this is encouraged, technical study must be made to ensure the functionality of the subproject upon completion.

i. MULTI-PURPOSEBUILDING – This subproject is intended for community trainings or any capability building activities, storage of agricultural produce, and any community purpose not under the Project negative list. Floor area ranges from 48 s-m (6m X 8 m) to 63 s-m (7m X 9m). Similar with the other

building subprojects, the materials to be used varies on the available local resource.

j. SMALL SCALE IRRIGATION – Similar with other subprojects, this is a community managed communal irrigation system (CIS) with irrigable area not to exceed 100ha. Gravity fed through concrete line canal or pipes. Pumps may be used for smaller areas not exceeding 10ha. High maintenance pumps are not encouraged.

2. **Enterprise** – These are facilities (Infrastructure or Infrastructure with Capacity building component) with the primary intent of generating income after completion. Similar to Public Good, these can be classified as Construction or Improvement. *e.g.* of Sub-Project type like Meat Processing Facility, Corn mill, Rice mill.

3. **Human Resource Development**– These are 'soft[3]' Sub-Projects with the primary intent of providing Capability to the community e.g. Skills Training, Literacy Programs and others.

4. **Environmental Protection and Conservation**

a. SEAWALL – a structure to protect the community near the coast. It is constructed at the inland part to reduce/stop the effect of waves in scouring the shoreline where human settlement is located. It is constructed from a variety of construction materials like reinforced concrete, rubble masonry and gabions.

b. SLOPE PROTECTION – structures to protect the earth grade from eroding/collapsing. Common structures are rubble masonry, grouted riprap, gabion and reinforced concrete.

c. RIVER CONTROL – structure constructed to confine stream flow and protect scouring/damages of river banks. Similar with the seawall subproject, it is constructed from a variety of construction materials like reinforced concrete, rubble masonry and gabions.

d. DRAINAGE – subprojects intended to remove or discharge surface water. These are constructed in communities to drain run-off to avoid flooding. Drainage structures include reinforced concrete pipes (RCPCs), reinforced concrete box culvert (RCBCs), spillways, concrete and earth canals. Similar structures subprojects implemented on existing roads shall be classified under road improvement.

e. WASTE/SANITATION MANAGEMENT FACILITY – These are subprojects intended to promote a healthy environment. However, any proposed facility should be prepared with a study to ensure relevance to the goals of KALAHI-CIDSS.

KC STANDARD PLANS AND SPECIFICATION – These are technical plans and specifications prepared for KALAHI-CIDSS subprojects. Most of these were adopted from the standard plans of partner agencies implementing or mandated to such

[3] Non-infrastructure, Capability programs that can be implemented within the CEAC, but are expected to be responsive and sustainable after completion.

programs/services. This includes Barangay Health Station (BHS) from the Department of Health (DOH), SchoolBuilding from the Department of Education (DepEd) and structures, Sections and profiles of rural roads and bridges from the Department of Public Works and Highways (DPWH). KALAHI-CIDSS however made some modifications to suit the local conditions and requirement of KALAHI-CIDSS Project, hence the KC standard plans and specifications.

SUBPROJECT FEASIBILITY AND VIABILITY – KALAHI-CIDSS subprojects undergo the process of feasibility and viability check. At the minimum, subproject shall satisfy the cost effectiveness analysis (CEA) with benefit cost ratio of ≥ 1.0. This runs from participatory situational analysis (PSA) to project development stage to ensure that any subproject proposed by a community is responsive to their need/s and could be sustained by the same community or in partnership with their local government. Aside from being responsive, appropriate technology, operation and maintenance capability of communities are ensured/assessed during these stages for the sustainability of services and subprojects.

APPROPRIATE TECHNOLOGY – In the selection of subprojects, locally available technologies, skills, spare parts, materials and other resources including the capacity of community to implement such technology as well as managing the operation and maintenance of the subproject are strictly considered in the design.

OPERATION AND MAINTENANCE (O&M) – This refers to the regular/everyday running and handling of the subproject including physical activities such as preventive maintenance and repairs for the upkeep and sustain the proper working condition of the system/facility. O&M is critical criteria in the selection of subproject to ensure the feasibility and viability of subproject. In the conceptualization and planning of any proposed KALAHI-CIDSS subproject, a careful study is conducted. An O&M plan is prepared as part of the proposal.

OPERATION AND MAINTENANCE GROUP – This is the group or committee esponsible for the operation and maintenance of a subproject. This could be in form of an association (e.g. BAWASA or Barangay Water and Sanitation Association for water systems, PTCA or parent teacher and community association for school buildings), a committee under or the Local Government Unit (LGU) or a partnership of community volunteers and LGUs. Whatever the management arrangements, it is properly assessed during the project development and implementation to ensure the sustainability of the subprojects.

O&M groups are encouraged to be registered to an appropriate agency e.g. SEC, DOLE, CDA, and others. This means that O&M group/organization possesses Legal Personality authorized by Law to transact business and operate to deliver its mandate. Registration is acquired from the Securities and Exchange Commission (SEC), CDA, DOLE, DSWD, and other authorized Agency as maybe appropriate.

Registration is the legal 'blanket' for O&M groups. It is needed to protect their operations and assets/properties. It is also required for its accreditation and membership to Local Development Councils (LDC) - Special Bodies.

The Sangunian Bayan duly accredits registered O&M group. It is envisioned that O&M groups (as a People Organization) to be part of the Local Development Councils (LDC) - Special Bodies. They shall continue to participate in Community Development and Local Governance.

Registration of O&M groups mainstreamed (Committees) under LGUs do not need to be registered separately because LGUs already posses the legal requirements. Separate bank account is an option the concerned LGU and community shall consider. This depends on the availability of O&M fund and frequency of deposit. However, the existing bank account of the LGU can be used. In this case, the fund intended for O&M of the sub-projects will be a Trust Fund with separate book of account.

SUBPROJECT PROGRAM OF WORKS (POW) refers to the complete schedule and plan of works, materials, equipment, labor and other resources needed to implement the subproject. It contains the POW summary, detailed estimates, technical plans/drawings, specifications, implementation schedule (Gantt/Bar chart or PERT CPM) and other supporting documents.

a. POW Summary – It contains the summary of requirements for the subproject such as; basic subproject information, direct cost, indirect cost, sources of funds and cost sharing and stakeholders' signatures.
    i. Direct cost means the fund for materials, equipment, labor, construction and supervision;
    ii. Indirect cost refers to the "buffer" funds for the subproject. This includes contingency and administrative cost.
    iii. For details, refer to the POW summary form attached to the community infrastructure manual.
b. Detailed estimates – part of the POW that contains the breakdown of estimates such as quantity take-off, derivations, capability outputs on labor, materials and equipment.
c. Technical plans – contains the physical detailed drawings, dimensions, sections and other technical requirements drawn on a standard 20" x 30" drawing papers.
d. Signatories– the preparer shall be the project preparation team (PPT) with the assistance of the engineers (DAC, Service Provider or LGU); it will be checked and reviewed by engineers (DAC or LGU); approved by the Barangay Sub-Project management committee (BSPMC); and, noted by the regional infrastructure engineer (RIE). Local chief executives (B/M/PLGU) will sign the POW to conform their local counterpart contribution.

VARIATION ORDER – refers to the approved change in the program of works (POW). Variation order is prepared due to the need to add or reduce the quantities, cost or scope of works in order to complete and ensure the functionality of the subproject. The changes (scope of works) should be within the physical target (coverage) of the sub-project and the cost should be within the original total estimated subproject cost (TEPC). Should there be additional cost; implementing community shall be responsible in mobilizing the cost required. Project staff shall guide the community volunteers in preparing the necessary requirements.

Variation order is prepared by the subproject implementation team with the assistance of the PROJECT engineer (Deputy Area Coordinator, Municipal Engineer or service provider), and approved by the Barangay Sub-Project Management Committee Chairman (BSPMC).

Cost of variation order shall not exceed 10%(this is an example only but we can adopt it if appropriate) of the direct cost.

Two types of Variation Order:

Change Order – Change is within the original scope/item of works. The changes may be reduction of quantities/cost and addition (of quantities/cost) of other work items.

Additional Work Order – Aside from reduction or addition in the original POW, change in this type of variation involves additional scope/item of works which are not part of the original POW but necessary to complete the subproject.

Sustainability Evaluation Tool (SET) – this is the evaluation tool used to assess the sustainability of the completed subprojects. Six months after subprojects completion and six months thereafter, a regular monitoring and evaluation is conducted by a composite team called the multi-stakeholders inspectorate team (MSIT). MSIT is composed of municipal representatives (MIAC and Local Officials) and Community representatives (Barangay officials and O&M groups). This activity provides the venue for Communities both at the Municipal and Barangay level to jointly assess the subproject sustainability, operation and maintenance performance. Gaps identified during this evaluation will be discussed and provided with recommendations to the O&M group. Action Plan is developed as guide for the community O&M group performs the recommendations; likewise, the Municipal Inter Agency Committee (MIAC) shall continue to monitor the implementation of the recommendations and provides technical assistance.A SP sustainability evaluation (SET) is used for this activity.

Sub-Project Sustainability Evaluation Tool (SET) measures the degree of subproject sustainability performance ranging from Poor to Excellent. SET comprehensively assess the four components of subproject sustainability; physical condition of the subproject, organizational & financial management, and the utilization/functionality based on the planned SP objectives and users. SET is administered approximately half of a day per subprojects. Implementation of SET is institutionalized at the Municipal and Barangays/communities. As part of the objectives of the Project, respective communities and their local governments shall continue this activity for subproject sustainability.

Functionality Audit (FA) – Unlike the SET, the functionality audit is a snapshot of subproject functionality at a given time. Functionality Audit is a sustainability 'redflag' system of the Project. This tool can be administered by community volunteers, MCT/MIAC and DSWD staff. It determines the functionality of completed subprojects based on the planned benefits of objectives. There are three ratings; 1) functional – meaning the subproject is delivering the intended benefits; 2) weak in functionality – portion of the subproject is not functional or it is not delivering the planned benefits; and, 3) non-functional – the subproject is not functional based on plan. Photos showing the subproject functionality and non-functionality are taken during the conduct of FA and will be attached to the FA form. Like the SET, the results of FA are addressed to ensure that subprojects will continue to deliver its full benefits.

I. INTRODUCTION TO THE MANUAL

In response to the growing poverty problem in the countryside, the government has launched the KALAHI-CIDSS:KKB (*Kapit-Bisig Laban saKahirapan-Comprehensive and Integrated Delivery of Support Services:Kapangyarihan at Kaunlaransa Barangay*) Project was launched to help the poverty reduction program by the present administration. The major components of the Project are: a. Social Mobilization and CapabilityBuilding; b. Project Development and Provision of Assistance to Community Projects; c. Advocacy and CapacityBuilding for Local Government Units (LGUs); d. Project Management.

The project intends to achieve three (3) major objectives; i) community empowerment; ii) improved local governance; and iii) reduced poverty incidence in the countryside. To attain these goals, the 16-step approach to community development was introduced. The approach encourages people to participate in the development process of their respective communities. Training and honing the talents of potential leaders at the community level, who will assist and spearhead the Project implementation, is one of the initial activities during the process. After the needs of the community have been identified, local political leaders are encouraged to shared their legislative skills in identifying and implementing appropriate interventions to address these needs. This is focus and the highlight of the Project.

The second component, "Project Development and Provision of Assistance to Community" is where various infrastructure sub-projects are identified, which will be implemented by the community. These community sub-projects address unmet basic needs which supports the poverty reduction program. Lessons from the CIDSS program of DSWD show that infrastructure ranks high among the unmet basic needs of residents in poor communities. In KALAHI-CIDSS, Infrastructure projects are implemented with strong community participation and are facilitated through community organizing and development.

This manual, "Community Based Infrastructure Sub-projects Manual", will guide Project staff and covered communities in the preparation and implementation of small infrastructure projects, with the assistance of their respective local government units. KALAHI project implementers contracted local-based Service Providers, and other project co-implementers will also benefit from this manual. The Manual also provides Project Managers clear guidelines and tools for sub-project implementation and monitoring. The most common identified sub-project types implemented by the communities will be discussed per chapter, with discussions on the various stages of selection, design consideration, planning and construction. The common sub-project types that are frequently requested and implemented are:

- Rural access (Roads and Bridges)
- Rural water supply systems
- Community infrastructure buildings
- Other small infrastructure sub-projects

The revision of the infrastructure manual was deemed necessary to incorporate all existing policies and procedures adopted in the Community Empowerment Activity Cycle (CEAC)[4], an enhanced process of the Project's 16-Steps, in improving sub-project selection

[4]Revised Staffs Field Guide (previously known as ACT Manual for the 16 Steps) in implementing the project processes based from experiences and demands seen at the community and municipal levels.

and implementation. Related sections from the Area Coordinating Team Manual(February 2004 version), were also incorporated in this manual.

1.1 Who May Use This Manual

The manual is basically prepared for Project technical staff (Regional Infrastructure Engineers), as a guide and reference for sub-projects that will be identified, prioritized, evaluated, approved for financing, and implemented by various communities. These sub-projects are largely co-funded through a World Bank financing, other interested Donors and stakeholder's local counterpart contributions.

This also serves as source book of information and procedures that can be used by the technical staff and community volunteers in preparing the detailed project engineering plans, estimates and Program of Works. It provides them with ideas and guidance on how the community should undertake the implementation of sub-projects. Also, Project Social and Environmental Safeguards Policies are presented for clear guidance. Sub-project supervision, including operation and maintenance of completed sub-projects under the KALAHI-CIDSS:KKB, will also be discussed.

The manual helps ensure the attainment of the overall objectives of the KALAHI-CIDSS:KKB Project – Community Sub-project Grant Component by:

a. providing stakeholders with a uniform understanding of the KALAHI-CIDSS concept in general, and its rural infrastructure component in particular;
b. enhance the participatory approach in project planning and implementation through the involvement of community members, local government officials, NGO partners and other stakeholders of the project;
c. provide a road map for the smooth ground implementation of approved community sub-projects, ensuring maximum efficiency and achieving planned economic gains;
d. provide a clear delineation of the roles and responsibilities of project implementers at various levels of project implementation;
e. provide guidelines in ensuring the sustainability of approved sub-projects in terms of its operation and maintenance throughout its project life;

1.2 Limitations of the Manual

The Project's six (6) years implementation period covered 184 municipalities involving an approximate 4,229 barangays. Most of the municipalities assisted by the KALAHI-CIDSS are located in the boondocks of the country within the forty-two (42) provinces and twelve regions. Except for ARMM, Regions I, II, III and NCR, the project is expected to cover at least 25% of the total number of municipalities in the covered provinces. For the expansion and up-scaling of the project, significant numbers of additional municipalities are expected to benefit the project implementation.

This manual applies only to the processes of implementation of ruralinfrastructure subprojects that are proposed and to be implemented under the KALAHI-CIDSS Project. It spells out, in layman's term, the guidelines, procedures and systems on project identification and prioritization, evaluation, plan preparation and review, procurement, ground implementation, control monitoring, operation and maintenance, and post evaluation activities.

Various infrastructure sub-projects that would be subjected to evaluation using this manual are rural roads and bridges, water supply system, buildings (e,g. school, health stations, day care centers, multi-purpose centers, etc), rural electrifications, drainage systems, shoreline protections, piers, wharf and other small infrastructures that communities have identified as that which will address their priority problem.

II. OVERVIEW OF THE COMMUNITY SUB-PROJECT COMPONENT

2.1 Project planning and design arrangement

KALAHI-CIDSS will provide grants for the construction, repair and improvement/upgrading of small-scale rural infrastructure sub-projects identified by the proponent community[5] or cluster of communities. Recipient communities will contribute partially-paid labor, local materials and other contributions "in-kind". Local government units may provide additional cash or "in-kind" counterpart for the identified sub-projects to meet the minimum thirty percent (30%) of the total sub-project municipal grant allocation. Local-based private service providers will assist communities in technical plans preparation, construction supervision, equipment utilization planning, and provide other assistance as needed for the approval of the technical proposal. More complex civil works, that have been identified but for which local capability to implement is lacking, will be implemented through local contracting of private contractors. Examples of these are: reinforced concrete deck girder (RCDG) bridge construction, mechanized supported sub-projects such are road constructions, communal irrigation projects. Technical guidance will also be sought from national government infrastructure agencies, like the Department of Public Works and Highways, National Irrigation Administration, Provincial Engineering Offices and other capable private service providers.

Standard designs for school building, barangay health station and day care center will follow the design of the respective implementing agencies such as Department of Education, Department of Health and Department of Social Welfare and Development respectively. Other standard structures where DPWH have already established designs for box culverts, single-lane concrete bridges will also be adopted by the project if applicable.

2.3 Indicative Menu of Sub-Projects and Cost Parameters

In most cases, communities will propose infrastructure projects which are to be funded based on the result of their ranking on their Participatory Situational Analysis exercises. From the experience of the CIDSS and other community-based projects, the sub-projects needed by communities will likely include construction, improvement or expansion and upgrading of: (i) domestic water supply systems, (ii) barangay roads and bridges, (iii) multi-purpose buildings/post-harvest facilities, (iv) small-scale communal irrigation projects, (v) school building for basic education, (vi) sanitation facilities, (vii) health centers, (viii) day care centers, (ix) flood control facilities, (x) barangay electrification and xi) other small-scale physical infrastructure. These types of sub-projects will provide the community improved access to basic social services, support their economic activities and contribute to improved local environmental protection program.

[5]Barangay Assembly. The 1991 Philippine local government code describes the barangay assembly as composed of residents of the barangay who are: (i) 15 years of age or over, (ii) with at least 6 months residency, (iii) citizens of the Philippines, and (iv) duly registered in the list of barangay assembly members.

Community infrastructure sub-projects under KALAHI-CIDSS will involve small civil works. Costs of the individual sub-projects will generally be less than P2 M (US $ 40,000), with the exception of some water supply sub-projects and barangay road[6] construction sub-projects which are estimated to cost P3 M (US $60,000) assuming an average road length of 2 kilometers. Communities may adopt a phased implementation of barangay road sub-projects, depending on the level of community organization, sufficiency of local contribution and technical capability. Current cost parameters per sub-project type are shown in Annex __

2.4 Non-Eligible Sub-Projects

Sub-projects and activities not eligible for funding under KALAHI-CIDSS include: purchase or compensation for land; road construction into protected areas; repair of government offices; meeting halls and places of worship; environmentally hazardous materials such as; chainsaws, explosives, pesticides, herbicides, insecticides, asbestos and other potentially dangerous materials; fishing boats (beyond the weight limit set by BFAR), activities that have alternative prior sources of committed funding, remuneration of government employees; micro-credit which involve on-lending of project funds; activities for fiesta and other religious and cultural activities, international travel; salaried activities that employ children below the age of 16, consumption items and maintenance and operation of infrastructure built from project funds.

2.5 Sub-Project Financing and Cost Sharing

A specific amount of grant assistance shall be allotted by the Project to target municipalities and the barangays comprising them. Allocation of funds shall be made by the Municipal Inter-Barangay Forum-Participatory Development Resource Allocation (MIBF-PDRA) whose members include three (3) representatives from each participating barangays. The funds shall be released to the community account after approval of the sub-project by the MIBF and submission of complete documentary requirements to the NPMT. Recipient or prioritized communities should open a current account and withdraw the funds from local bank branch (preferably Land Bank of the Philippines). A statement of physical progress and an expense reports will accompany succeeding releases of funds to the communities.

Ideally, the release of funds shall be made through three (3) tranches, 50%-40%-10%. Communities may adapt an open tranching system to some sub-project types that may need bigger initial investment to complete it on time. This option should be supported with a community procurement package and justification in order to be approved (please refer to revised Community Procurement Manual).

2.6 Cost Sharing Scheme

All proposed and approved sub-projects shall require contributions from the communities and all other local sources. The amount of counterpart, whether cash or in kind, shall form part of the project requirement for sub-project funding. Eligible equity in kind would include local materials, valued labor contribution of proponent communities, wages of LGU personnel assisting the community, equipment usage, and other forms of in-kind contributions. For all approved community sub-projects, the total summation of local

[6]Barangay roads are characterized by relatively short lengths, designed for maximum permissible traffic volume of 20 vehicles per day and not exceeding axle loads of five tons.

counterpart contribution must reach the minimum 30% of the total grant municipal allocation. However, for MakamasangTugon modality, the minimum local counterpart contribution (LCC) must reach 30% of the Total Estimated Project Cost (CBIS+SPI). This is in compliance with the Memorandum of Agreementsigned by the municipality and the Department. Refer to the Community Based Finance Manual for details on LCC delivery.

2.7 Project's Implementation Principles

Infrastructure implementation should observe the LET-CIDSS[7] guiding principles of the KALAHI-CIDSS project. Fulfillment of the principles will be through the following mechanisms, procedures and tools. It is important for the ACT members not to loose track of these guiding principles in implementing the project;

- ***Localized Decision-Making*** – Proposed sub-projects of proponent communities are presented, verified, prioritized and approved locally by the Municipal Inter-Barangay Forum. Prioritization follows a set of criteria and mechanics to be adopted during the MIBF. The role of project management is to ensure that the process is being observed before the release the funds.

- ***Empowering***– Communities will drive the process of needs identification and approval of sub-projects. As owners of the sub-project, they will have control over the identification, planning and execution of sub-project implementation activities. During the process, community members may engage the expertise of local service providers for technical proposal preparation and will benefit from hands on procurement process for goods and works during construction. Monitoring and reporting implementation progress will also be done by the community members, who will learn and gain lessons from their experience in sub-project implementation and contribute to strengthening community organization and mobilization.

- ***Transparent*** – The processes and mechanics for sub-project identification, selection, prioritization, implementation, monitoring and operation will be discussed among, and agreed upon, by community members and representatives in the inter-barangay forum. During sub-project implementation, the approved project plans, cost estimates, bill of materials, quality control checklist, construction timetable, status reports on sub-project resource usage (labor, materials and equipment), periodic sub-project physical and financial reports prepared by the committees, and sub-project operation and maintenance reports shall be posted in community bulletin boards and updated regularly for understanding of the community and the general public. A sub-project signboard will also be installed. Sub-projects will be open to external monitoring by NGOs and media groups.

- ***Community prioritization*** – Eligibility to access project funds is open to all barangays within a municipality but actual fund allocation as decided by the MIBF will go to sub-project proposals that will meet the following criteria: address priority needs of poverty groups, have high community cash or in-kind contribution, technically feasible and environmentally sound, will involve direct community participation during implementation, and is sustainable in the long run.

- ***Inclusive and Multi-Stakeholder***– All community members participate in sub-

[7]LET-CIDSS stands for the 8 project principles of KALAHI-CIDSS: localized decision-making, empowering, transparent, competitive, inclusive and multi-stakeholder, demand-driven, simple and sustainable. The principles are discussed in detail in the General Operations Manual.

project implementation through their elected representatives in the sub-project preparation, implementation and management teams. Different teams in the barangay will be formed (e.g. Project Preparation Team, Barangay Representation Team, Barangay Sub-Project Management Committee, Project Implementing Team, and Sub-Project Operation and Maintenance Group) to take the lead in community decision-making at different stages of sub-project implementation. During sub-project implementation, specialized committees will be formed for procurement, monitoring and inspection, and audit and inventory. Women shall be strongly encouraged to participate in the barangay processes. Institutions working in the locality - LGUs, NGOs, media,POs and NGAs – shall be involved in project implementation.

- ***Demand-Driven*** – Since the project has an "open menu", communities can propose any sub-project, provided the amount involved is within the municipal allocation. The proposed sub-project activities should not be in the negative list and there should be a clear connection between the sub-project and some broader goals of the community (e.g., improved access to basic social services, improved economic opportunities and improved environment).

- ***Simple*** – All procedures and standard sub-project formats are kept to the minimum, and serious attempts have been made to make them simple for community members. The process of simplifying formats will be a continuing activity of the Project.

  Specifically, user-friendly KALAHI-CIDSS resource materials - called "sub-project mini manuals" - will be developed on infra projects preparation, cost estimation, construction, quality control, and operation and maintenance**.** These project-specific mini-manuals will include description of designs, plans, cost estimates, construction methods, and quality control and monitoring tips of small-scale community infrastructure projects like those in the KALAHI menu. The mini manuals will help community facilitators explain to the community the process and cost of infrastructure building, and provide community members a monitoring checklist. Availability of the mini manuals will also accelerate proposal making, plans and estimates preparation by the communities and LGUs, and fast-track technical review by RPMO engineers.

  Other resource materials to be developed to facilitate community organizational and technical preparation will include flip charts, modules and hand-outs to be used by facilitators, area coordinators, LGUs and project co-implementers.

- ***Sustainable*** – Proponents of sub-projects will be required to present viable long-term plans for operation and maintenance. Presentation of the operation and maintenance plan shall be done upfront during the proposal-making stage. Specifically, project proponents will be required to show their resource generation and organizational plans to operate and maintain the sub-project after completion. Feasibility of the O&M plan will be one criterion for sub-project selection by the inter-barangay forum. Project staff will also verify actual performance of the community on sub-project operation and maintenance. Community groups who will take over the actual operation and maintenance of completed sub-projects will be provided a set of trainings to improve their technical and organizational capabilities. At the municipal level, local governments shall have strong participation in the project to ensure buy-in and eventual pick-up of the participatory and community-driven planning approaches.

Over-all, the project adheres to the fundamental principles of Participation, Transparency and Accountability.

2.8 Sub-Project Implementation Arrangements

Proponent communities and their technical assistance providers together with LGU engineers and/or community-hired local-based private service provider, will be responsible for the planning, supervision of sub-project implementation. In situations where communities and LGU engineers need specialized advice, specialists from government agencies like the National Irrigation Administration, Bureau of Soils and Water Management, Department of Public Works and Highways and Provincial Engineering Offices will be engaged as advisers. For major civil works, communities may contract the services of local-based small private contractors.

Mode of sub-project implementation can be made through Community Force Account (CFA), local contracting or both modalities for some sub-projects.

2.8.1 Community Force Account

Implementing infrastructure sub-projects through CFA means that the community members will execute the actual implementation of the subproject. This is possible only if the community has the resources and capacity to perform the works. If the community does not have capability and resources to undertake specialized work items, **portions** of the work items maybe contracted out through local contractors either by shopping or bidding depending on the allowed threshold.

The category of force account is enforced and sealed through the commitment of MLGUs, through their Municipal Engineering Office, to supervise and monitor the implementation. In most cases, it is likely that communities will adopt the community force account scheme as the dominant mode for sub-project implementation (with or without TA provider).

2.8.2 Community-hired private service provider

In most cases, the lone municipal LGU engineer will be unable to assist all barangays in technical plans preparation and construction supervision (average of 26 barangays per municipality with only one municipal engineer or with one technical aide). So as not to delay the scheduled activities, communities may hire local-based private TA provider or private engineers for plans preparation and construction supervision. **Payment for services of the contracted TA provider shall be taken from the community grant or plans preparation TA fund from KALAHI-CIDSS.** The normal cost of hiring services for engineering design, plans and estimates preparation is estimated at about 2-3% of direct cost, while for construction supervision, the cost is usually about 3-5% of the project cost. The project will provide the so called "Technical Assistance Fund" in the amount of Php9,000 per barangay. The whole municipal amount can now be requested based from the policy issuance of the project.

2.8.3 Special government technical advisers

In some areas where the availability of service providers are limited, technical assistance from other government agencies will have to be secured for

implementation of certain "specialized" community infrastructure sub-projects, e.g., small water impounding project or communal irrigation project. The TA agencies for these sub-projects are the Bureau of Soils and Water Management (BSWM) of the Department of Agriculture and the National Irrigation Administration (NIA). The design of bridges, either concrete or hanging, must be properly coordinated with the Department of Public Works and Highways or Provincial Engineering Office. Technical assistance rendered can be in the form of assistance in the design, and supervision over the LGU engineer and community representatives during the phases of sub-project design, plans preparation and construction. The RPMO and central-level project office will coordinate with the BSWM and NIA to execute a sub-project memorandum of agreement with these agencies

2.8.4 Community Contracting

Community contracting of the whole or part of the sub-project activities will be allowed for complex civil works that the communities and LGU cannot implement directly due to lack of technical capability and equipment.

The possibility for communities to propose complex civil works may arise when they submit joint sub-project proposals, which require larger sub-project fund allocations, in order to implement more efficient and more sustainable infrastructure sub-projects. An example would be construction of a 20-30 linear meter concrete bridge costing more than P3 million or US$60,000. In this case, there are projected greater benefits in terms of the number of users it can accommodate, longer serviceable life, and better safety protection for users of the project compared to low-technology bridges. However, due to lack of equipment and experience at the LGU, private contracting would be more economical for this type of project.

The LGU engineer will help the community prepare the working plans and estimates that will form part of the contract documents. The deputy Area Coordinator and the LGU engineer will assist the community in contract management and technical supervision. The community will pay the contractor progressively, after the delivery of required outputs as stipulated on the contract.

As in the community force account, privately-contracted civil works will ensure *labor forces* are hired from the community, specifically 100% of unskilled labor and at least 30% skilled labor. Communities will require this in the contract agreement with the contractor. The contractor shall report compliance with this agreement during the regular meetings of the Barangay Assembly.

Communities shall select their contractor from a list of qualified, local-based small contractors identified during the social investigation and planning stage conducted by the DAC.The first step would be to secure from the Philippine Contractors Accreditation Board (PCAB) a list of licensed small contractors in the provinces whose license category matches the KALAHI menu of infrastructure projects. The list will be validated locally and renewed yearly. Accredited local contractors shall constitute the pool of contractors whose services the community can engage following the project procurement guidelines. The suggested simplified procurement process for community contracting is outlined in the Community Procurement Manual.

In addition to the LGU engineer's TA assistance to the community, RPMO engineers shall closely monitor contracted sub-projects to check on the progress and quality of the works accomplished. Quality control engineers from the central level KALAHI-CIDSS office shall also inspect the project periodically.

2.9 Community Procurement Guidelines

Community procurement of goods, works and services for community infrastructure projects should be consistent with the procedures in the Community Procurement Sub-Manual. This will govern the procurement process of community grants. The following procurement methods specified in Annex 6A of the KALAHI-CIDSS Project Appraisal Document shall be followed:

Shopping for goods and services - Contracts for goods and services available locally valued at less than $7,500 or equivalent, will be awarded by getting quotations solicited from at least three qualified suppliers on the basis of simplified documents following the forms required in the Procurement Sub-Manual. To enhance efficiency and remove the inherent risk of compromise, request for and submission of quotations will be in writing. Quotations should be opened at the same time and to the extent possible in the presence of community members. The supplier who offered the lowest price will be awarded the contract. For contracts of goods and services amounting to more than $7,500 or equivalent, or where the aggregate amount provided by a specific supplier to an individual sub-project will exceed $7,500, the Regional PMO will be required to assist the communities with procurement.

Shopping for work or small works contracts. Contracts for small works amounting to not more than $25,000, or equivalent, shall be procured by obtaining written quotations from at least three qualified local contractors (including NGOs) who would be invited to submit quotations on the basis of simplified quotation forms as specified in the Procurement Sub-Manual. The invitation to submit quotations should be in writing. The invitation shall include a detailed description of the works, including basic specifications, start and completion dates, a basic agreement format acceptable to the Bank, and relevant drawings. Quotations should be opened at the same time and to the extent possible in the presence of community members. As a general rule, the award shall be made to the contractor who offers the lowest price quotation and is evaluated to have the technical capacity for the required work. The Municipal Facilitator (technical) will review the specifications, quotations, and the contract.

Local bidding for goods and works contracts. Contracts for goods amounting to more than $7,500 (Php375,000)[8], or equivalent, and works, amounting to more than $25,000 (Php1.25 M) will be procured following a simplified open tendering procedure. The process involves limited local advertising by posting notices at strategic places, use of local media such as radio or local newspaper, circulating the notice or reading them out in community meetings or other public gatherings. Simplified standard bidding documents will be included in the Community Procurement Sub-Manual. The request for bids spells out the work or goods needed, the criteria for selection and the deadline for submission of bids. Bids shall be opened at a public ceremony and evaluated by a committee appointed by the community. Bids are

[8] Exchange Rate @ U$ 1:50 pesos, based from March 5, 2007 Amended Community Procurement Manual

examined to determine whether they meet the minimum specifications mentioned in the bidding documents. Bids that meet the minimum requirement specified in the bid invitation are retained for further evaluation. The bidder who meets the lowest bid is selected. The award and the amount of the contract should be announced to all bidders. Contracting will follow the form specified in the Procurement Manual, and will be signed within five days of the announcement.

Direct contracting/Off the shelf purchases. Goods and works that are available only from one source and do not exceed $2,500 or $5,000, or their equivalents, respectively, may be procured by directly choosing the particular supplier or contractor. To the extent possible, the contract price agreed upon should be within local market rates or established estimates using the Unit Cost Database. This method requires approval of the community committee to remove the inherent risk of compromise.

Community Force Account. Works that are determined to be implemented by the community using its own resources such as skilled and unskilled labor, materials, equipment may be allowed provided it is shown that the community has the resources and capacity to perform the works. Under this method, the community may apply: (a) hiring of laborers following the "pakyaw" procedure; and/or (b) direct provision of raw materials or finished product.

2.10 Operation and Maintenance Aspect

The Project will ensure that all completed sub-projects can sustain its operations and meet its purpose through its design project life. As early as the planning stage, the community volunteers are required to prepare an operations and maintenance action plan. The plan will include the organizational and institutional arrangement, initial tariff set and the other financing schemes to support O&M activities. The different O&M community user groups, Barangay Waterworks and Sanitation Association (BAWASA), Irrigators Association (IA), people's organizations, and community health and school boards should be fully functional after sub-project completion. As stipulated by the Local Government Code, LGUs shall maintain completed barangay roads and bridges or may employ other operation & maintenance arrangements that may be applicable at the local area.

During sub-project implementation, community trainings towards sustainability will be provided to O&M groups. Organizational development, management, financial and technical aspects are some of the trainings that will be given to the volunteers.

The project had designed a tool to monitor and evaluate community's compliance to their operation and maintenance activities. The tool will assess the organizational, financial and technical status of the sub-project. A municipal level inspectorate team will conduct periodic evaluation every six (6) months after the inauguration of the sub-project. Results of the evaluation will be presented to the next cycle and will be considered as criterion for prioritization for the succeeding cycles.

Likewise, the conduct of Functionality Audit is expected to be observed after the completion of the sub-project. This is to ensure that the investment is utilized by the communities based on its original intent and purpose.

Study the past if you would define the future.
Confucius

III. SUB-PROJECT IMPLEMENTATION PROCESSES

What is a sub-project in the context of KALAHI-CIDSS:KKB Project?[9]

A "project" is an organized set of activities to address a defined problem or condition, and/or attain a desired condition. It is different from a program because a project has a definite timeframe while a program is typically sustaining. A program can also have many component projects, while projects have component activities divided into major clusters, according to project objectives. A project is also different from a strategy, which is the basic methodology for implementing the project. A Project has specific time duration starting from its identification to inauguration and acceptance of end-users.

In the context of KALAHI-CIDSS, a community project performs the following critical functions;

a. **Community projects serve as a learning tool**. In the course of identifying appropriate projects to address identified development challenges, communities build local understanding of poverty conditions existing in the community. In the course of implementing community projects, leaders, volunteers, and even ordinary community residents acquire new skills and knowledge. But more importantly, community residents are provided with a rich environment to explore ways of working collectively guided by the principles of participation and inclusion.

b. **Community projects are convergence points**. They provide a focus for concerted, systematic community action on development challenges and the pooling together of resources and technical expertise of different development agencies and stakeholders. They also provide a venue for direct, creative dialogue between providers of technical assistance (such as LGUs, NGAs, and NGOs) and community residents.

c. **Community projects are instruments for poverty reduction.** Properly designed community projects effectively targeted at critical development challenges contribute in a direct way to reducing local poverty. The continuing community action generated by effective community projects (such as operation and maintenance, and eventual expansion activities) also provide opportunities for sustained local development.

3.1 Sub-project selection and planning

The Project undertakes social processes that follow the normal development planning activities. Selections of willing volunteers who will spearhead the preparation of proposals are trained to various skills for tasks ahead. Facilitators are expected to coach and guide these volunteers during workshops like the Participatory Situational Analysis (PSA) exercises. PSA will be the foundation for the selection of an intervention in a given community. The use of Social Investigation (SI) reports and the need to analyze the current condition of the community with the volunteers and technical staff will provides a better appreciation on what type of intervention the community will be provided. Community needs vary from infrastructure support, livelihood opportunity, capability building component and social infrastructure for the basic access.

The most common rural infrastructure sub-project types identified by the communities will be discussed per section. This will help the users to follow the policy

[9]Section 3.2.3 of CEAC Field Guide for Area Coordinating Team,

guidelines issued based on the interventions agreed. The chapter's discussion will cover from the selection stage, field validation, planning and plan preparation, detailed costing and cost sharing, implementation activities or construction methods and the possible operation and maintenance arrangement.

In view of the Project's experience with various types of community sub-projects, the following major categories were decided upon:

a. **Public Goods** - these are projects which intend to deliver a public service and/or address an issue of access to basic services. These include most infrastructure projects such as roads and bridges, drainage works, irrigation systems, water systems, public school buildings, public health stations, and others;

b. **Enterprise Development** - these are projects that directly contribute to increasing the income of its intended beneficiaries. Examples include all income-generating projects and common-service facilities which intend to provide services for the profit for users and members.

c. **Capability building** - these are projects that increase local capacities and capabilities. While the latter cover training projects, the former can include advocacy projects such as those for asset reform (i.e. activities intended for natural resource protection or land reform), since their primary intent is to increase capacity of beneficiaries to meet needs by establishing ownership and control of means of production.

d. **Environmental Protection and Conservation –** these are sub-project that may either protect the community and conserve the eco-system in the locality.

Due to the complexity of poverty problems facing local communities, it is difficult to come up with a specific project type falling under as single category, to address this development challenge. More often than not, the resolution of development problems will require a combination of project types and interventions.

Other infrastructure component under the Enterprise Development such as construction of buildings for post-harvest facilities will have to follow the requirements for constructing buildings.

The following section is an effort to focus technical discussion to the common types of community selected sub-project. This will guide the user to understand the standards set by the Project in order to ensure that the community investment will meet the applicable engineering practices at the rural sector. The sections will discuss the basic technical requirements for rural roads, rural water supply systems, social infrastructures and other small scale rural infrastructure sub-projects.

3.2 Community Mobilization Activities

During the project development stage, there are other activities that the volunteers and technical staff have to attend. Aside from the technical design for road access sub-project, other documentary requirements have to be complied in time for the Municipal Inter-Barangay Forum for Participatory Resource Allocation (MIBF-PRA). Before the

conduct of this major municipal activity, a technical working group must be organized to review the documents required before the sub-project is finally approved. The succeeding topics will elaborate the necessary documents for submission to MIBF.

3.2.1 Resource Mobilization and Allocation – the Project encourages the generation of local counterpart contribution from community and other stakeholders either in cash or in-kind from. Community projects are not without costs. Determining what resources are needed, how much these are, and where they can be accessed, constitute a major area of concern in developing community projects.

In order to build community ownership and ensure viability and sustainability of community projects, the KALAHI-CIDSS adopts a cost sharing scheme where all interested stakeholders contribute to the implementation of the community project. Specifically, the municipality is expected to contribute an amount which is 30% of the total KALAHI grant. It is also expected to provide this counterpart contribution for three cycles. Other forms of contributions, as stipulated on the Memorandum of Agreement signed between the project and the MLGU, have to be fully documented and accounted for. These have to be classified as either: intended for sub-project implementation (SPI), or intended for capability building and implementation support (CBIS).

Local counterpart contribution -common forms of local counterpart contribution (LCC) are cash or contributions in-kind. In-kind contribution could either be in the form of monetized labor, materials available at the community, or equipment committed by the local government units. Cash counterparts are either coming from the barangay internal revenue allotment (IRA) or from municipal and provincial assistance. On some cases, congressional representatives also provide financial assistance to communities. For these types of cash contributions, it is necessary to verify the availability of this commitment before the approval so to avoid delays during the sub-project implementation.

A corresponding format for in-kind commitment is provided for documentation purposes. The volunteers and ACT should ensure that the commitments can be delivered during the time of implementation.

3.2.2 Joint Site Validation - There are two levels of site validation. One is conducted together by the technical staff prior or after the PSA. The other is jointly conducted by community volunteers (representatives to MIBF) and conducted before the approval phase in the Municipal Forum. The first type provides information needed to identify an appropriate technology of intervention. The latter, which is a joint validation, serves as an input to the MIBF representatives who will justify, analyze and later approve the proposal based on its responsiveness to community needs. A prescribed Report Format (Site Visit Report) is provided to facilitate initial data gathering by technical staff.

3.2.3 Organizational Formation and Strengthening – Together with the preparation of the technical and financial aspect of the proposal, the Facilitator must also guide the community in the formation of community based organizations or strengthening existing CBOs. This is to ensure that project implementation, operationalization, and O&M arrangements are known and agreed by the community members.

To encourage a wide range of community participation, Ad Hoc Committees are formed: Planning and Preparation Team (PPT) will be the lead group during planning stage. Project Implementation Team (PIT), Audit and Inventory Team (AIT), Procurement Team (PT), Operation and Maintenance (O&M) Group and the selection of the over-all leader as the Barangay Subproject Management Chairperson (BSPMC) are conducted during one of the Barangay Assemblies. The heads of each Ad Hoc group will compose the Executive Council of the BSPMC for every barangay or cluster of barangays.

3.2.4 Community Trainings –Capability building activities conducted for community volunteers and other stakeholders are: project planning and development, procurement, community finance, project implementation, and operation and maintenance. During the planning period, project proposal are being finalized together with the preparation of the Sub-project Concept Form (as revised) to be presented during the MIBF-PRA. The format is attached in Annexwhile the project proposal format is shown in the CEAC field guide. For procurement activities, refer to Community Procurement Manual for the readiness filter of sub-project implementation.

3.3 Construction Implementation and Supervision

3.3.1 Pre-Construction Conference – before the actual implementation, it is important to set the direction of activities to be undertaken. The Deputy Area Coordinator (DAC) or the Municipal Engineer should lead the Project Implementation Team and other Ad Hoc committees involved during implementation stage in a workshop or meeting. Discussions will focus on explaining the work items and its subsidiary works to be accomplished including but not limited to; (i) duration to complete the work items, (ii) manpower and equipment utilization requirements, (iii) timing of delivery of materials and storage facilities, (iv) quality control program and materials testing requirements, (v) delivery of local counterpart and (vi) safety measures during construction stage. It is also recommended to discuss the schedule of manpower distribution among community members and the manner of payments for laborers.

For sub-projects to be undertaken by Contract, it is important that the Project Engineer and the Proprietor (or the authorized representative of the Contractor) be present during the conference. Important provisions of the contract should be discussed including the corresponding attachments for payment of progress billings. The Sub-project Physical Accomplishment Report needs to be discussed with the PIT and AIT for their understanding and appreciation.

3.3.2. Staking to establish the horizontal and vertical control of the road alignment.

For road construction and upgrading, it is important to conduct the stake survey to establish the stations of the important elements of curve (e.g. point of curve, intersection and tangency, etc.). This will help the heavy equipment operators to work within the road design. Stations for structures must also be established to guide the laborers on their work.

3.3.3. Major activities to observe during implementation period:[10]

[10] CEAC Field Guide, Section 3.1 Project Implementation Stage

Planning the works and assigning people to do the task – this involves identifying and documenting the specific activities that must be performed in order to produce delivery of works. There is the need to maximize the labor force available and to provide employment opportunities at the community level. Engineers have to be ready with the work and manpower schedules to manage the distribution of workers. Matching of available skilled workers to the works to be established undertaken has to be analyzed by the Engineers. If required skills are not available at the village, the management committee may decide to explore securing it in other barangays. Facilitators can assist the implementing committees and Engineers by mobilizing the interested volunteers/workers during implementation.

Organizing the work – activities must be accurately sequenced in order to support later development of a realistic and achievable schedule. In most cases, there will be item of works to be simultaneously undertaken to meet the desired timeline for completion. It is therefore necessary for the supervisor to manage the level of complexity during this period. Ensuring that required resources and manpower are available will expedite completion of the work. The timing of weather conditions has also to be factored-in during the scheduling in order to come up with a realistic completion date.

Directing activities – this is the critical stage of the implementation. Technical instructions or activities to be undertaken by the community volunteers and workers must be explained very clearly and must be understood by them. Engineers must be specific on the instruction and be very explicit in explaining the possible outcome, implications of the works and as well as expected completion dates.

Controlling project execution - this process provides the project with necessary flexibility to update schedules, make revisions, install corrective actions and document the lessons or experiences learned. Implementing committees and project supervisors have to learn to control the time of implementation, cost of investment, the quality of the execution and managing the risks involved. The risks could be either in the aspect of procurement process, financial transactions or environmental impacts from the work activities. Mitigating measures have to be executed promptly to minimize further damage.

Tracking progress and reporting system – for effective management, this activity shall establish a system for tracking progress of implementation and a tool for regular reporting. In KC project, simple progress and monitoring reports are submitted regularly as required. Posting of reports at the ACT and BSPMC offices are essential for examining the performance during implementation. This activity practices the transparency principle and fosters responsibility sharing among community members. Weather Chart and periodic progress of implementation must be posted at the BSPMC office. Likewise, the financial status must be readily available at the community level.

Analyzing the results – generated reports must be analyzed as to whether the accomplishment or performances are within the expected timelines and parameters. Once a sub-project incurs delays, the causes are analyzed and solutions and collective actions are agreed upon. A common cause is the timing on the delivery and releases of funds. This delay must be anticipated and addressed with appropriate actions during the pre-construction conference.

3.3.3 Quality Control Program – as mentioned on the previous section (specifications), minimum quality testing should be conducted to ensure the quality of the work.

Shown on table3are the recommended minimum quality tests required per work item.[11]

Technical staff should explain to the community the need to observe the compliance of quality control program. The activity will lessen their concern regarding the periodic maintenance of the completed sub-projects

For works undertaken by Contract, no payments of progress billing will be made if materials testing are not conducted and satisfactory results are presented by respective Contractor. Similar to works undertaken by Force Account, material testing must also be conducted and the technical staff should accompany the volunteers to testing centers to witness the activity.

Table 3

Work Item/Material	Min. Laboratory Test Required	Field Test
1. Embankment (Item 104) Material which is acceptable and which can be compacted. It can be common or rock.	Grading – 1 (soil of such gradation that all particles will pass a sieve with 75mm (3 in) square openings and not more than 15% will pass the 0.075mm (No. 200) sieve.	Field Density Test (FDT) should meet the minimum compaction of 95%.
	Plasticity Index – 1 (not more than 6)	
2. Sub base Materials (Items 200 & 201) Aggregate subbase shall consist of hard, durable particles or fragments of crush stone, crushed slag or natural gravel and filler of natural sand.	Grading – 1 (The fraction passing the 0.075mm (No.200) sieve shall not be greater than 0.66(two thirds) of the fraction passing the 0.425mm (No.40) sieve.	Field Density Test (FDT) should meet the minimum compaction of 100%.
	Plasticity Index – 1 (the fraction passing No.40 seive shall not be more than 12)	
4. Concrete Works (Item 311) (Item 405)	Beam sample(150mm x 150mm x 525mm) (Compression Test) Cylinder sample (150mm x 300mm) Minimum compressive strength of 20.7 MN/m2 or 3000 psi at 28 days for Class "A".	
5.Steel Reinforcing Steel (Item 404)	Bending – 1 (for every size of rebars)	
	Tensile Stress – 1 (for every size of rebars)	
6. RCPC	Compression Test per batch of culverts if fabricated on site.	Certification from the supplier that materials delivered passed the test.

3.3.4 Work Suspension – during the course of construction/implementation, unforeseen events and situations occur. The Project Engineer through the BSPMC will issue a Suspension Order and state the reasons for suspension including the duration covered. A Weather Chart is very important document in case there is a need to justify work suspension due to unfavorable weather conditions.

[11] Area Coordinating Team Manual, February 2004, Step 14 Pre-Implementation

In the event the situation merit for a favorable condition to continue the work, the Project Engineer through the BSPMC will issue Resume Order. For works under contract, number of days covered by the approved suspension order should not be counted on the total duration for contract period and necessary adjustments on the completion date have to be made.

3.3.5 Variation Order - may be issued by the procuring entity to cover any increase/decrease in quantities, including the introduction of new work items that are not included in the original contract. It also includes reclassification of work items that are either due to change of plans, design or alignment to suit actual field conditions resulting in disparity between the preconstruction plans and the "as staked plans" (construction drawings prepared after a joint survey by the contractor and the Government after award of the contract).The Variation Order does not exceed ten percent (10%) of the original project cost. The addition/deletion of works should be within the general scope of the project as bid and awarded. A Variation Order may either be in the form of a change order or extra work order.[12]

Any changes incurred in the project site must be supported by shop drawings, cost estimates and the corresponding approved Variation Orders. The technical staff at the LGU and PIT will request the proposed changes to be reviewed by the DAC. Before the BSPMC signs the approval, the request must pass the final review of the Regional Infrastructure Engineer for concurrence and notation. The RPMT is expected to notify the BSPMC through a letter of approval/disapproval on the merit of proposed variation order. In no instance shall works that are subject to changes commence without the approved variation orders and notation of the proposal. Sanctions will be imposed to technical staff who might fail to follow procedures.

3.4 Reporting and Monitoring

To ensure that sub-projects are implemented accordingly, several transparency mechanisms are adopted by the Project. Community volunteers through various Ad Hoc committees are conducting regular meetings and assemblies to report the status of the sub-project for both physical and financial accomplishments.

3.4.1 Monthly physical accomplishment report - must reflect the activities conducted for the period and the evaluation in terms of weighted percentage. Problems encountered, including delays, should be properly documented. Analysis of the report ought to be made to the BSPMC by the DAC with recommendations and appropriate actions toaddress the issues.

Sample computation for determining work accomplishments:
Sub-project Name: *Improvement of 1.76 kilometers Barangay San Miguel Road:*

Work Items	Qty.	% to total	Qty. Accomp.	Compute % of Accomplishment
Roadway Excavation	1,200 cu.m	13.66%	1,000 cu.m	$\frac{1,000}{1,200}$ x 13.66 x 100 = 11.38%
Structural Excavation	45.00 cu.m	0.91%	30.00 cu.m	$\frac{30.00}{45.00}$ x 0.91 x 100 = 0.61%

[12]R.A 9184, Annex EContract Implementation Guidelines for the Procurement of Infrastructure Project and Policy issuance dated

Sub-grade preparation	10,560 sq.m	10.47%	7,200 sq.m	7,200 / 10,560	x 10.47 x 100 = 7.14%
Agg. Sub-base Course	1,584 cu.m	69.60%	500 cu.m	500 / 1,584	x 69.60 x 100 = 21.97%
RC Pipe Culverts	21.00 ln.m	5.36%	7.00 ln.m	7.00 / 21.00	x 5.36 x 100 = 1.79%
Total		100%			**= 42.89%**

The quantity considered as accomplished are those that are within the design lines and grades, and are in-place. For roadway excavation, you may refer to the cross section plans and validate the volume excavated from the actual site per station. The 30.00 cu.m represents the excavated volume intended for pipe culverts on the designated stations. For sub-grade preparation, the 7,200 sq.m is already on grade and compacted, while the 500.00 cu.m of sub-base course materials are also on grade and compacted. The 7.00 ln.m of Pipe Culverts are in-placed on the designated station based on the plan and with appropriate collar on the joints.

As presented on the sample computation, the cumulative accomplishment on the cut-off date in preparing the monthly accomplishment report is 42.89%.

For sub-projects undertaken by contract, the DAC and the Municipal Engineer must conduct an inspection and validate the works accomplished as stated in the Statement of Work Accomplished (SWA) by the contractor. Corresponding test results must be also be secured before payment is made.

3.4.2 Joint Inspection Report – submitted to support the release of the final tranche. Inspection is conducted when the sub-project has reached substantial completion of at least 90% physical accomplishment. This report is prepared to check the acceptable works and assess the remaining works, and to give time for rectification of unacceptable works.

3.4.3 Final Inspection Report – Submitted together with the Sub-project Completion Report (SPCR) to signify that the whole works are done based on plans and specifications. All "In-place" works including the approved variation orders should be reflected on the final report. This will signify that the sub-project is 100% complete in accordance to approved plans and specifications.

3.4.4 Sub-project Completion Report (SPCR) – Milestones, important undertakings and information of the sub-project are captured in this document. The SPCR must be prepared in advance before the date of the inauguration to serve as the highlight of the event together with the Mutual Partnership Agreement (MPA).

3.4.4 Barangay Assembly – one of the transparency and accountability mechanisms of the Project is the conduct of Barangay Assembly (BA). The executive Council of the BSPMC reports to the Assembly the status of sub-project implementation. Issues are presented and collective resolutions are agreed upon for action. The minutes of the meeting of this assembly is an output required for the release of succeeding tranches..

3.4.5 BSPMC Office – to strengthen the management capability of the volunteers, securing an office space within the barangay is recommended. All project documents need to be properly filed and record keeping is expected to be observed for easy accessing during monitoring activities. Specifically, procurement and financial documents must be properly secured in the office.

3.4.5 Accountability Reporting– the activity is conducted before the end of the cycle where members/representative of barangays report the actual engagement of the prioritized barangays during the sub-project implementation. Problems encountered and strategies to address these problems/issues have to be shared with others as lessons learned in implementing CDD projects.

Consequences of Poorly Managed sub-projects:

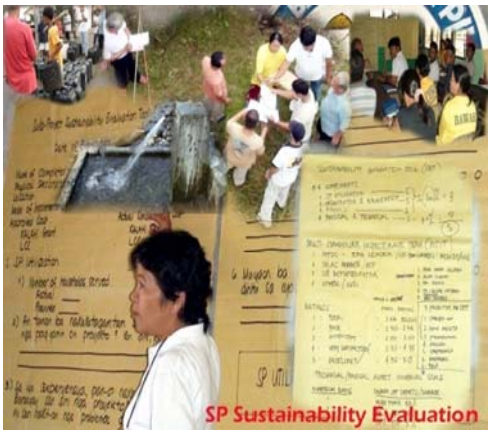
- Cost over-runs
- Conflict between project participants
- Escalating manpower, materials, equipment cost
- Scheduling are delayed and missed deadlines
- Too many penalty payments
- Loss of credibility of the volunteers
- Damaged Project image

3.5 Operation and Maintenance Aspect

Various O&M arrangement can be agreed upon for every barangay. Under road and bridge access, it is recommended that a Barangay Road and Bridge Operation and Maintenance (BROM) group be organized, to be headed by the Barangay Councilor in-charge of the Infrastructure Committee. The Barangay Council could be the lead organization in the O&M function of the road access.

The Operation and Maintenance Plan[13] has to be fully observed by the O&M group and community members in order to minimize the cost of unnecessary repair. Tariff or user's fee can be collected to augment the maintenance fund set aside by the BLGU and MLGU. The Barangay Council has to pass an Ordinance to effect the collection.

An evaluation of O&M activities are conducted regularly by the Municipal Inspectorate Team (MIT), organized at the local level, to assess the level of compliance and to rate the sustainability performance of the sub-project. This activity is conducted every six months after the date of its inauguration. The Mutual Partnership Agreement (MPA) will also serve as source document during the evaluation.



[13] KC Sustainability Continuum Guide

During the conduct of Sustainability Evaluation, it is expected that satisfactory rating will be the least to be received by the barangay once they follow their Operation and Maintenance Plan. Benefits monitoring can be established at the course of this evaluation and is expected to improve the economic and social status of the communities from the road sub-project.

IV. Rural Access (Roads and Bridges)

"It is critical that we improve safety on the nation's rural roads, which are exposing rural residents and visitors to an unacceptable level of risk."

William M. Wilkins, TRIP's executive director
A nonprofit transportation research group.

Most of the covered rural communities need roads access or the rehabilitation of existing roads which give access to the municipality, including access roads and bridges to reach certain barangays. In most rural development projects, particularly community demand driven project, rural access is frequently identified as the pressing need of the communities. Once the rural access sub-project is in place, economic activities increased and progress is felt by the target communities together with its neighboring barangays.

This chapter will discuss Project procedures in implementing rural access. It covers: identification; design consideration and plans preparation; presentation of detailed cost estimates and program of works; procurement packaging and construction methods adoptable to the locality. Standard work items[14] will also be discussed to ensure common understanding and terminology between technical points of view and layman's terms.

Investments for horizontal projects such as roads usually require a significant amount of financial resources. The technical staff involved in the selection process and in the designing of the road section must set certain criteria to be able to recommend an appropriate design for a particular location or situation. The following should be taken into consideration for the construction of rural roads.

4.1 Minimum selection criteria

4.1.1 Road Access **-** the criteria and requirements for the selection of rural access in the project area are the following:

- Priority road networks are those which are improvements to existing roads;
- Any road section selected for development/improvement that would link the community to existing all weather roads or to other barangays within the road network (village access road).
- Any road sub-project section selected for development would link from farm production areas to barangay center within target communities (farmland access roads)
- Improvements to critical access points outside the barangay.
- All proposed rural access improvements (both barangay roads and farm access tracks) would generate an economic rate acceptable to NEDA.
- Project beneficiaries and community volunteers are willing to support the pre-implementation activities such as traverse and profile surveys, land holding identification traverse by the road section and negotiation or settlement of right of way (ROW).
- Less environmental impact is expected along the proposed road sections. Otherwise, environmental impact can be mitigated and must be clearly stated in the Environmental Management Plan.

[14] Standard Specifications for PublicWorksandHighways, 2004 Edition

- Road development/improvement shall be limited to gravel roads with a maximum grade of 10%. Exceptions to road sections with gradients of 10% and above are concrete paved roads with a maximum of 300 meters for 4.00 meters width or an equivalent of 1,200 square meters.[15]
- Avoid concreting relatively flat terrain unless in an exceptional case that it will warrant to concrete due to unavoidable technical situation.
- Provision of adequate drainage structures and slope protections and other similar structures that will protect and support the road.
- Road route shall not traverse swampy, log over and flood prone areas and in all cases earthworks (e.g. excavation and embankment) pay item shall be minimal.
- Limit the proposed road segment to barangay roads and avoid funding road sections classified as provincial and national.[16] These are considered within the mandate of provincial government and DPWH.
- LGU and community are willing to provide the required equity either in cash or in kind.

4.1.2 Bridges – the requirements for this sub-project type are the following:

- A component of road segment, or a stand alone proposal in the development/improvement of village access roads, farmland access and or road access leading to the target barangay or where the demand is required.
- Project beneficiaries and volunteers are willing to support pre-implementation activities such as surveys, land holding identification traverse by the section and settlement of right of way.
- HangingBridge design must be reviewed and approved by technical staff DPWH or Provincial Engineering Office.
- No quarrying within 1 kilometer of upstream and downstream side of the bridge site.
- All design for bridges must not fall short of the technical requirements use by DPWH.
- Bridges spanning more than two (2) spans shall be reviewed by DPWH district or regional offices.
- All design for piers and abutment shall in most cases rest on concrete piles.
- Sufficient and adequate protection works or structures must be provided so as not to endanger the structural quality of the bridge
- Bridges on critical river beds such as swamp, log overs, and other soft river bed areas must be provided with geo-technical evaluation.
- LGU and community members are willing to provide the required equity either in cash or in kind.

4.2 Selection of appropriate design and technology application

The selection of proposed road sections for development must pass the minimum criteria mentioned above. During the deployment of Area Coordinating Teams, the conduct of social investigation prior to the participatory situational analysis is required. Initial data gathering of barangays and municipal profiles are undertaken as basis for Team planning on the appropriate approaches during field activities.

[15] April 2006 RIE Planning Workshop Agreements
[16] November 2004 RIE & RFA Fiduciary Workshop Agreements

For proposed road sections for improvement or construction, the Deputy Area Coordinator (DAC) and other municipal technical staff have to make an initial site validation and gather data necessary for design considerations. A Site Validation Report for road access has to be filled-up by the validating team for this purpose. Photo documentation is necessary to determine the extent of possible work items to be incorporated in the program. The photos must be taken from one vantage point as reference for the next stages of project implementation. The same vantage point will be the reference in order to document the changes or improvement of the proposed intervention. After the validation, an initial analysis has to be made by the staff in order to assist the community in deciding what appropriate design can be derived based from gathered data.

Other factors to consider are: a) the socio-cultural practices of the area and, and b) the capacity of the community to undertake operation and maintenance activities after the completion of the road. The design should also consider: a) the existing and potential agricultural produce, and, b) available types of transportation that will use the road, so as to limit the width and materials to be adopted.

The available equipment which will be needed during the implementation stage has to be identified, including other alternatives. If the municipality has available equipment to be utilized during implementation, an inventory of the pool of equipment has to be undertaken by the DAC. The pro-forma for inventory of available resources at the municipality is accomplished during the social investigation stage.

The initial field validation can be conducted during the social investigation stage. It can be done before or after the Barangay Assembly or during the Participatory Situational Analysis activities.

4.3 Preparation of detailed engineering requirements

Once the selection has been finalized and proposed interventions prioritized, initial activities for the preparation of required engineering documents will commence immediately.

If the community members decide to make use of the TAF[17], a barangay assembly resolution has to be passed asking the project to release funds to pay service provider/s. The ACT, through the DACs, should be ready with the inventory list of service providers. The ACT will assist the Project Preparation Team in processing Request for Fund Release (RFR). They should validate the request for TAF using the Eligibility Checklist.

Once the service providers are engaged, they should be asked to attend the Project Development Workshop (refer to Chapter 3 of CEAC Field Guide) where an orientation on the KC project technical requirements, as well as the selection and approval process, will

[17] Technical Assistance Fund in the amount of P9,000 per barangay is granted to communities for paying the technical services provided by competent service provider/s hired by the Project Preparation Team.

be given. Their involvement in community development activities will emphasize the importance of their outputs, and help ensure the completion of the sub-project.

Some of the technical requirements needed for a road and bridge sub-projects are listed and discussed below. The technical preparations should be carried out by the service providers hired or by the municipal engineering office. The DAC, from time to time, will assess and monitor the progress of the technical preparation. When there is a need for a respective agency to be involved in the preparation of technical proposal, the ACT will assist the volunteers in the coordination activity.

The schedule of detailed engineering activities shall include the following but should not limited to;

a. Site Investigation
b. Survey
c. Foundation Investigation
d. Soils and Materials Investigation
e. Preparation of Design
f. Preparation of Specifications
g. Preparation of Quantity and Cost Estimates
h. Preparation of Program of Work
i. Preparation of Proposed Construction Schedule (and estimated cash flow for projects with schedule over six months)

4.3.1 Site investigation

This activity includes, but is not limited to, identification of possible routes for roads and bridges, or drainage systems. It may cover relevant areas that maybe useful for decision-making during the detailed planning of the subproject. The involvement of the community members/volunteers is very important as they are more knowledgeable of the area.

The decision on the choice of routes, structures that are to be built is dependent on the following information: information given by the local people; information from the field data; and information gathered using the validation form of the project.

In all cases, decision in choosing the site location for the subproject must be anchored on the following:

1. Cost of subproject implementation must be economical
2. Less environmental impact and or environment impact can be mitigated
3. Availability of construction materials with in the area.
4. That the technical/design requirement of the subproject is technically feasible and implementable.

4.3.2 Surveys

Field surveys are conducted when the possible routes for roads, bridges or other applicable structures have been chosen and identified. The common activity includes traverse, profile, cross-section and site surveys. For some critical routes that will require topographic and soil survey, the proponent should ask the service provider to perform the work needed. Also, survey of lots that will be affected during the implementation stage should be simultaneously

undertaken. This will give lead time for the communities to negotiate with affected landowners for the acquisition of property.

The involvement of the community members and recognized local leaders is crucial at this stage of the detailed engineering process as well as the identification of lot owners affected.

The following types of survey will guide the designer on what needs to be done based from the actual situation of the proposed site. Some of the surveys may not be required for the specific sub-project proposal.

4.3.2.1Traverse survey - In road subprojects, this can be undertaken simultaneously with topographic survey. This survey is conducted to identify the proposed location of the road on the ground. Likewise, location of permanent structures and water ways are mapped out including the establishment of horizontal and vertical controls, right of way limits and limits of ROW for every lot owner. The result of this survey will provide information whether to continue the proposed road alignment or to choose another route. The survey results will also determine if there are lot owners affected by the subproject.

4.3.2.2Profile survey – This survey will determine the actual ground elevation of any required location, based on the alignment established during the traverse survey. The result of this type of survey will provide information on: levels of cut and fill in every road sections; existing river bed elevation beneath the longitudinal centerline of the bridge; the level of excavation of pipe cross-drains. For road rehabilitation or improvement, it is better to follow the grade of the existing road elevation to minimize major earth moving activities.

4.3.2.3Cross-section survey – This survey will be conducted on road subprojects to determine the relationship between the present surface/road section to that of the designed roadway cross sections. This shall be conducted perpendicular from the centerline of the roadway using cross section level at every 5 meters interval of the centerline of the proposed road progressing to the left and to the right for a maximum of 15 meters. The result of this type of survey will provide information of every specific road section's earthworks quantity cut or fill. For bridge subprojects, this type of survey will determine the behavior of the water flow and river bed elevations within 200 meters, upstream and downstream, of the proposed centerline of the bridge. Cross section survey should be taken perpendicular and longitudinal to the centerline of the bridge.

4.3.2.4Topographic survey - this shall be conducted for roads that are located in critical slopes and for bridge subprojects. The result of this type of survey will provide the required information on ground elevations within the subproject site and the surrounding area, including the location of the natural drainage. Reference maps from NAMRIA can be used for this purpose and are useful for mountainous and very rugged terrain.

4.3.2.5Land Use survey – this type of survey identifies the present land use of the selected area for the subproject will be located. This activity will be undertaken simultaneously with traverse/topographic survey. The volunteer

members of the survey team will assess and conduct inventory of the present usage of land within the influence area of the proposed road section. Result of this survey will minimize the damage to crops and prevent intrusion to areas declared as national reserve, and will provide initial inputs to agriculture planners.

4.3.2.6. Hydrologic survey – this type of survey is conducted to determine the flood data, water velocities, sediment load, river or creek morphology, scour depth, and flood discharge. This is normally conducted on rivers and creeks where bridge, spillways and other river crossing will be constructed. Results of this type of survey will provide information on the type of structure to be constructed in a given river, creek or channel. Information taken from the residents of nearby rivers can provide an accurate frequency of flooding per year and the maximum height of flood water. Technically, this survey needs the expertise of DPWH personnel. If information is already gathered by the concerned agency, there is no need to conduct the said survey.

4.3.3 Foundation investigation (For Bridges)

Foundation investigation is the process of determining the subsurface materials underneath the location of a structure such as a bridge or dam. Due to the complexity of the process and the required data needed for a given problem, different methods may be applied such as: soil exploration, borings or drillings and load test, to name a few. The subsurface soil investigation is used to determine the capacity of the underlying earth structure to support in any given loads. The most common method used in foundation investigation is soil exploration. If information is available in an infrastructure agency like DPWH and Provincial Engineering Office, the survey need not be conducted.

4.3.3.1 Soil exploration – this is the type of survey which is normally conducted at the proposed location of a bridge structure, specifically, a bridge abutment and pier. This will determine the soil strata beneath the earth surface where structures will be erected to avoid costly redesigning and probable scour depth at the bridge abutments and piers. The result of this type of survey will determine the type of bridge foundation to be constructed in relation to its soil foundation and the load that it can carry. The BITs can provide additional information such as; the type soil of the river bed, structures constructed if any; and other information that is substantial to the safety of the structure.

4.3.4 Soil and materials investigation

Soil and materials investigation are conducted along the proposed road route thru several methods. One common method is the use of bored holes or test pits at identified locations to verify the type of soil or earth materials beneath the surface of the earth.

4.3.4.1Soil survey – This is conducted by extracting earth samples at several locations, which are then brought to the laboratory for analysis. The analysis results determine whether the type of soil beneath the existing surface will determine on what sub-structure (i.e., spread footing, reinforced concrete piles) is appropriate. However, due to the limited depth of the boring equipment, earth subsurface beyond reach cannot be determined.

This type of survey is expensive and time-consuming for use under the Project, and thus, can be impractical and expensive on the part of the communities. Other simpler methods should be explored such as: assessing the present land use and vegetative cover in the area; analyzing exposed earth structures near or adjacent to the proposed subproject; and information gathered from the nearby residents or lot owners in the area.

4.4 Preparation of design and technical plans

Depending on the actual field condition of the area, the following basic design criteria may be adopted in the design for barangay roads. It is noteworthy to consider in the design the cost effectiveness for the investment.

4.4.1Basic Design Considerations for Roads:

Criteria	Limits
Road Category	Barangay
Type of Road	Gravel surface
Roadway width	6.00 meters
Road Carriage Width	4.00 meters
Road Shoulder Width	1.00 meter both sides
Sub-base thick and width	0.15 meters & 4.00 meters
Base course thick and width	0.15 meters & 4.00 meters
Max. Grade	12.00%
Acceptable Grade (limited)	12.00%-15.00% (PCCP)
Grade Design	As much as possible grade lines must follow the existing terrain specially for improvements
Design Speed for: 1. flat terrain 2. rolling 3. mountainous	 60 kms/hr. 40 kms/hr. 30 kms/hr.

4.4.4.1 Design Restrictions

a. Roads should not be located in swampy, log over, and flood prone areas.
b. Steep slopes must be avoided.
c. Large volumes of excavation must be avoided or should only be minimal.
d. "Thru cut" section must be avoided as much as possible.
e. The project design should cover only barangay and farm access roads; improvement of provincial and national roads are not within the scope of the Project.

4.4.4.2 Alternative Designs

a. For road improvements, the road profile of the existing road should be followed, where possible. This will minimizes the earthmoving activities of the proposed sub-project.

b. Tire-Path can be adopted as an alternative design in critical slope areas or concreting of portions, but with limited width.
c. The road width may vary depending on the type of vehicular traffic plying the proposed road section. In areas where the standard width is not applicable, then the design must suite the field condition. Always consider the capacity of the community for operating and maintening the road once it is completed.

d. In areas where the above-mentioned design considerations are not cost effective, the technical staff should closely coordinate with the local engineering office/s for other applicable alternate designs.
e. In areas where scarcity of surface material is experienced, other technology like soil stabilization maybe introduced using the in-situ materials. This is proven to be cost effective particularly during the operation and maintenance period.

4.4.2Basic Design Considerations for Bridge(s):

Criteria	Limits
Type of Bridge	RCDG
Number of lanes	Single lane
Width of Deck slab	4.00 meters
Shoulder Width	.36 meter both sides
LOADINGS : Live Load Dead Load Impact	MS 18 Conc. + wearing course = 1.054 kPA I = 15.28/L+3S I=.3max
Other Considerations: 1. Bridge Abutment and pier must rest on concrete piles	

4.4.1 Design Restrictions:

1. Bridge structure(s) must not be located in river bends.
2. In all cases where bridge length ranges from 20 meters to 40 meters, no pier shall be provided in the middle of the river.
3. Avoid constructing bridges on fault lines or frequently eroded areas.

4.4.2 Technical Plans (Road Access)

All engineering plans for roads shall be prepared in accordance with the above-mentioned design requirements. Theseshall support to the subproject proposals presented by the various communities. It is the

responsibility of the local government unit, thru its engineering office, to assist the communities in the preparation of the required technical plans. In some cases, the Project Preparation Team may hire a service provider/s to prepare the technical plans for road segments that require complex work like excavation and other earthmoving pay items.

Measurements and computations in the preparation of Engineering plans shall be in metric system and shall be prepared and submitted with the following:

1. Cover Page of the plans
2. Title of the proposed subproject
3. Location of the proposed subproject (region, province, municipality).
4. Size of the drawing sheets for roads and bridges should be 50 cms. (width) x 100 cms. (length).
5. For road rehabilitation/improvement proposals that will not require survey works, schedules of pay items and straight line diagram may be prepared by the proponent. This should also be drawn in the drawing sheet.
6. Detailed drawings for component structures like cross-drains and headwalls and canals.

Contents of the engineering plans:

1. Traverse Plan or Road Plan- The plan must be drawn in a half rolled tracing paper on top of the half rolled cross-section paper with dimensions as indicated above. This shall include, but is not limited to, the following:

    a. The plan must show the centerline of the road subproject; the width of the roadway, the shoulders and the right of way limits;
    b. Azimuth, distance, elements of curve, coordinates super elevation and widening of every curve and design speed shall be specified.
    c. Elevation of bench marks with accurate descriptions of reference points and controlling points with azimuth and distance shall be shown.
    d. Information and data of existing roads, intersections, railways, rivers, waterways, dwelling units and other structures must be indicated in the plan.
    e. Existing and proposed structures such as: concrete pavements, bridges, box culverts, pipes and other drainage structures must be indicated.
    f. Location of lined canals, protection work structures and other similar structures must likewise be indicated.
    g. The scale to be adopted must be 1:100M

2. Profile Plan **-** shall be drawn below the traverse and road plan. Stationing on the profile plan must start with the same station limits as that of the road plan or traverse plan and likewise shall end at the same station limits. The profile plan must indicate, but is not limited to, the following:

    a. Elements of the parabolic curve;

b. Grade lines shall be indicated: (+) for ascending and (-) for descending;
c. Provide station limits for existing and proposed structures including concrete pavements, box culverts, pipe culverts, riprap, bridges and others.
d. Designed grade corresponds to the finished grade line, including top of pavements, slab and road surface.
e. The bottom side of the profile sheet shall indicate the full twenty (20) meters station limits, including the original and design elevations.
f. Maximum, ordinary and highest water elevation of river, creeks and canals shall be indicated.
g. Scale must be 1:100m vertical and 1:1000 horizontal.

3. Cross-section Plan– This plan shall be drawn in the cross section paper for every 20 meters of the proposed road. This indicates the type of cross section such as: cut sections, embankment sections, and cut and fill sections. With this plan, the area of cut and fill for every 20 meters full station can be identified and computed.

   a. Actual ground elevation shall be indicated and inked.
   b. Designed ground elevation shall be indicated and penciled.
   c. Scale must be 1:100m horizontal and vertical.
   d. Design of cut and fill must be clearly reflected on the plan
   e. Indicate the elevations of pavements, box culverts, pipe culverts, side slope protections and other relevant structures.

4. Typical Roadway Designsfor roads cross section cut, fill, and cut and fill showing the dimensions of the roadway, carriageway, road shoulders, thickness of pavements, aggregate base course, sub-base course. Plans should be drawn to scale.

5. Reinforced Concrete Box Culverts & Pipe Culverts(RCBC)

   a. Plan of RCBC & RCPC
   b. Section, details and the concrete and bar bending schedules
   c. Schedules and or location of RCBC & RCPC
   d. All plans must be drawn to an appropriate scale

6. Gabions, Grouted Riprap and Stone Masonry
   a. Plan for Gabions, canals, grouted riprap and stone masonry
   b. Sections and Details
   c. Schedules and or Locations
   d. Specifications of materials to be used
   e. All plans must be drawn to an appropriate scale

4.4.3. Bridges

1. Topographic Plan– the plan should be prepared in ink and drawn to scale 1:500m to 1:1000m, depending on the width of the river, and showing the following:

a. Contours drawn shall use fine brown or black ink. Contours in multiples of five shall be slightly heavier and properly labeled at such intervals.
b. Highway alignment with at least two (2%) percent markers and points on each bank of the river properly described and referenced, with horizontal curves and elements shown.
c. Each bank of the river should have a benchmark which is clearly and properly described and referenced at least once.
d. The river course which shows the direction of flow drawn in blue or black ink.
e. The location of borings if any.

2. Profile Plan - shall be plotted in following scale depending on the width of the river:

Width of the River	Scale
Up to 30 m	1:80m
30 to 60m	1:100m
60 to 120m	1:2000m
120 to 200m	1:333 1/3m.
200 to 250m	1:400m
Over 250m	1:500m

a. The maximum flood level experienced, ordinary flood level and lowest flood level should be indicated in the plan
b. Must extend 100 meters to 200 meters upstream and downstream and shall be superimposed on the profile of the road centerline in order to determine the relative drop of riverbed within the distance of the section.
c. If the river has more than one channel, the profile of the streambed, along with the centerline of the channels, shall be considered.
d. Location, depth of riverbed and other boring data, if available, shall be shown in the profile.

3. Other Plans

a. Table of Bench Marks
b. Plan of the Bridge and Bridge profile
c. Standard Pile Drawings, including General Notes and Pile schedules and quantities.
d. Abutment Plan, including protection structures and details
e. Plan of the Diaphragm and Details
f. Plan of concrete coping indicating the connection between girders and slab, including the details.
g. Foundation and Footing Plan, including details
h. Plan of the Shaft including details
i. Typical Plan of Girders (center and end girders), including details.
j. Plan of the Slab, including details (center and end slab) showing connections to end structures.
k. Back wall and Girder seat plans and details.

l. Plan and Details of Railings and Sidewalk, indicating their connections and the details of the two (2) structures.
m. Plan and Details of Bridge approaches, including profile, plan, cross sections and the design of protection works and drainage structures, if any.
n. All plans shall be drawn to scale with references indicated to check elevation and measurements.
o. Design assumptions and computations shall be provided in a bond paper including quantity computations.

For road section improvements that will not require a significant volume of earthworks (excavation and embankment), a straight-line diagram must be prepared to indicate the station limits of the proposed works (surface materials, cross-drains and drainage structures). Structures must be drawn in appropriate scale.

4.5 Technical specifications for proposed work items

The "Technical Specifications for Roads and Bridges", a previous Project document, lists, in a simplified mannerthe specifications taken from the standards of Department of Public Works and Highways (1995 Edition). The specifications that are commonly used for rural roads and bridges are given emphasis on the sub-manual. This list should be attached to the plans and program of works using the latest revision of 2004. The DAC should explain the technical specifications to the community volunteers in layman's terms for them to appreciate it. Specifications are important during the procurement of materials, preparation and monitoring quality control programs during sub-project implementation.

If the technical specifications donot apply to the area, the Engineer may prepare specifications that will suite the condition of the area. The project acknowledges that some localities would have difficulty complying with the standard specification provided by the DPWH. Some of these situations involve barangays located in an island where access to equipment is too difficult and expensive, or far flung areas where mobilization of necessary equipment is too expensive.

The Engineer who will prepare the technical plans and POWs must ensure that work items used under the project are the standards set by the government. Deputy Area Coordinators are encouraged to read and understand the technical specifications to be aware of the details of the work items.

The list of work items, as listed on the 2004 Edition of DPWH Standard Specifications for Roads and Bridges, are discussed below. Detailed descriptions of work items are provided to guide field Engineers in the design for the proposed sub-project. This will facilitate selection of appropriate work items.

4.5.1 Earthwork Pay Items

Item 100 Clearing and Grubbing - This item refers to clearing, grubbing, removing and disposing of all vegetation and debris, as designated in the

Contract, except those objects designated to remain in place or are to be removed in consonance with other provisions of this Specification. The work shall also include the preservation from injury or defacement of all objects designated to remain. Unit of measurement should be in Hectares or Square Meter.

Item 101 Removal of Existing Structures and Obstructions - This Item refers to the removal, wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed off under other items in the Contract. It shall also include the salvaging of designated materials and backfilling the resulting trenches, holes, and pits. Unit of measurement should be in Cubic Meter.

Item 102 Excavation - This Item refers to roadway, drainage and borrow excavation, and the disposal of material in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer. Unit of measurement should be in Cubic Meter.

Item 103 Structure Excavation - This Item refers tothe necessary excavation for foundation of bridges, culverts, underdrains, and other structures not otherwise provided for in the Specifications. Except as otherwise provided for pipe culverts, the backfilling of completed structures and the disposal of all excavated surplus materials, shall be in accordance with these Specifications and in reasonably close conformity with the Plans or as established by the Engineer.

This Item shall include necessary diverting of live streams, bailing, pumping, draining, sheeting, bracing, and the necessary construction of cribs and cofferdams, and furnishing the materials therefore, and the subsequent removal of cribs and cofferdams and the placing of all necessary backfill. Unit of measurement should be in Cubic Meter.

Item 104 Embankment- This Item shall refer to the construction of embankment in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer. Unit of measurement should be in Cubic Meter.

Item 105 Sub-grade Preparation - This Item shall consist of the preparation of the sub-grade for the support of overlying structural layers. It shall extend to full width of the roadway. Unless authorized by the Engineer, sub-grade preparation shall not be done unless the Contractor is able to start immediately the construction of the pavement structure. Unit of measurement should be in Cubic Meter.

4.5.2 Sub-base and Base Course Items

Item 200 Aggregate Sub-base Cour*se* - This item shall refer to furnishing, placing and compacting an aggregate sub-base course on a prepared sub-grade in accordance with this Specification including the lines, grades and cross-sections shown on the Plans, or as directed by the Engineer.

Aggregate for sub-base shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed or natural gravel and filler of natural or

crushed sand or other finely divided mineral matter. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable sub-base. Unit of measurement should be in Cubic Meter.

Item 201 Aggregate Base Course - This Item shall refer to furnishing, placing and compacting an aggregate base course on a prepared subgrade/subbase in accordance with this Specification, including the lines, grades, thickness and typical cross-sections shown on the Plans.

In some areas where the conventional base course materials are scarce or non-available, the use of 40% weathered limestone blended with 60% crushed stones or gravel shall be allowed, provided that the blended materials meet the requirements of this Item.

There are other subbase materials that can be adopted if applicable to the area. But the items listed above are the most common pay items used. Unit of measurement should be in Cubic Meter.

4.5.3 Surface Course Item

Several surface materials that can be applied like Bituminous Macadam Pavement or Bituminous Concrete surface, but the most common is the Portland Cement Concrete pavement.

Item 311 Portland Cement Concrete Pavement - This Item shall refer to a pavement made of Portland Cement Concrete, with or without reinforcement, constructed on the prepared base in accordance with this Specification and in conformity with lines, grades, thickness and typical cross-section shown on the Plans. Unit of measurement should be in Square Meter.

4.5.4 Bridge Construction

There are several pay items listed under the bridge construction works. Most of these work items refer to the construction of concrete bridges. In the KC-KKB Project, most of the bridge sub-projects are hanging and foot bridges which require only important pay items, such as those listed below.

Item 404 Reinforcing Steel - This Item shall refer to the furnishing, bending, fabricating and placing of steel reinforcement which is of the type, size, shape and grade required in accordance with this Specification and in conformity with the requirements shown on the Plans or as directed by the Engineer. Unit of measurement should be in Kilograms.

Item 405 Structural Concrete - This Item shall refer to the furnishing, bending, placing and finishing of concrete in all structures except pavements, in accordance with this Specification and conforming to the lines, grades, and dimensions shown on the Plans. Concrete shall consist of a mixture of Portland Cement, fine aggregate, coarse aggregate, admixture when specified, and

water mixed in the proportions specified or approved by the Engineer. Unit of measurement should be in Cubic Meter.

4.5.5 Drainage and Slope Protection Structure Items

Item 500 Pipe Culverts and Storm Drains - This item shall refer to the construction or reconstruction of pipe culverts and storm drains, hereinafter referred to as "conduit", in accordance with this Specification and in conformity with the lines and grades shown on the Plans or as established by the Engineer. Unit of measurement should be in Linear Meter.

Item 505 Riprap and Grouted Riprap - This Item shall refer to the furnishing and placing of riprap, with or without grout, as the case may be, with or without filter backing, furnished and constructed in accordance with this Specification, and to the lines and grades and dimensions shown on the Plans.

Stones for riprap shall consist of rock, as nearly as rectangular in section as is practical, except that riprap of Class A which may consist of round natural stones. The stones shall be sound, tough, durable, dense, resistant to the action of air and water, and suitable in all respects for the purpose intended. Unit of measurement should be in Cubic Meter.

Item 506 Stone Masonry - This Item shall refer to stone masonry in minor structures, in headwalls for culverts, in retaining walls at the toes of slopes, and at other places called for on the Plans, constructed on the prepared foundation bed, in accordance with this Specification and in conformity with the lines, grades, sections, and dimensions shown on the Plans or as ordered in writing by the Engineer. Unit of measurement should be in Cubic Meter

Item 506 Rubble Concrete - This item shall refer to the construction of rubble concrete in accordance with this specification and in conformity with the lines, grades, slopes and dimensions shown in the Plans.

The stone shall be cleaned, hard, and durable and shall be subject to the Engineer's approval. Adobe stone shall not be used, unless otherwise specified. Stones to be used shall be more than 0.015 cubic metre in volume and not lessthan 75 percent of the total volume of rock embankment and shall consist of stones 0.03 cubic meter in volume as described in Item 506.2. Stones obtained from excavation performed under this contract may be used. Unit of measurement should be in Cubic Meter

Item 511 Gabions and Mattresses - This Item shall refer to the furnishing, forming wire mesh baskets, and placing rocks installed at the locations designated, in accordance with this Specification and in conformity with the lines, grades, dimensions, and arrangements shown on the Plans or as directed by the Engineer. Unit of measurement should be in Cubic Meter.

4.6 Preparation of quantity take-off and detailed estimates

Quantity take-off preparation should be based on the result of engineering plans. Cross-sections at 20.00 meters interval of the road profile should be clearly indicated on the plans to determine the volume required for excavation and embankment. Computation of the area and volume can be done using the conventional End-area Method (strip method) or by any computer-aided software available.

Volume computation for base materials (Item 200 & 201) should be a compacted volume. An additional of 10-15% should be added to the computed loose volume requirement. The hauling distance and equipment required to haul materials should be properly derived to determine the duration and number of required equipment to complete the subsidiary work items. Embankment and road surface materials also must have a shrinkage factor of 15-20% depending on the type of borrow materials to be used. Examples are provided for guidance:

For 1.0 km of road section: (item 200 surface materials)
Length = 1000 m
Carriage width = 4.00 m
Thickness = 0.15 m
Compacted volume = 600 cubic meters (to be used as the required quantity)

Loose volume = 600 x 1.15 = 690 cubic meters (quantities to be procured)

For computing the quantity of volume required for concrete works and reinforcing steel, a suggested matrix will help the estimator to systematically prepare the estimates.

After identifying all work items its accompanying subsidiary works and corresponding quantities needed, the preparation of detailed cost estimates will follow. Manpower capability output for respective activities including subsidiary works should be used to derived, specifying number of manpower required and the duration to complete the work item. Capability outputs for manual and equipment works, including the duration, manpower and equipment requirements, are provided in the Annex [18] for guidance. The example below shows how to make use of the manpower capability output.

A common excavation will usually require 60 cubic meters. How many days and laborers are required to complete the work? (Capability output is 1.50 cu.m/MD)
60 cu.m / 1.50 cu.m/MD = 40 Man-days (divide by the number of planned laborers to determine the number of days to accomplish the work), say 10 workers:
40 MD / 10 laborers = 4 days (to complete the works)

The duration of each work item, including specific work items must be computed properly to fully complete the said item of work. The programmer must consider the construction methods to be applied in order to come up with the desired completion schedule per work item. The construction method has to be written by the engineer in local dialect for easy reference of the volunteers in the absence of the technical staffs.

Presentation of detailed estimates using percentage of labor cost from material cost is definitely not acceptable in the Project.

[18] Memorandum dated 30 April 2007

Similarly, in computing the cost of equipment rentals, estimated duration, either in terms of hours or days of operation, should be based from the capability output of the equipment to be used. Information on the prevailing rentals rates of equipment should be available at the ACT office through the DACs. Salary of the equipment operator and fuel consumption can either be included in the rental rates depending on the area and arrangement. Common construction materials should also be established and monitored for price changes. ACT and regional level should maintain a database of said information for establishing unit cost analysis and sub-project cost parameters.

Also, during social preparation stage, it is expected that the clear outputs of the Deputy Area Coordinators are the inventory of potential performing Contractors and Suppliers available in the locality and nearby market centers. Prevailing market prices of construction materials and rental rates of equipment should be established to include the labor rates at the locality. Likewise, the Community Facilitator (CF) will also inform the DAC on the results of assemblies regarding the community commitment in terms of labor manpower.

For road improvements that will include pay items for clearing and grubbing, the photo documentation of the specific stations were the proposed item is required should be attached. This will control the over-estimation of the proposed sub-project and placing inappropriate pay items in the proposed road project. Likewise, the most common lapse is the cost derivation for embankment pay item. If the volume of excavation is greater than the embankment volume required, embankment materials may no longer be needed and the sub-grade preparation can handle the compaction works for this pay item.

4.7 Indirect Costs

Indirect costs like pre-engineering, contingency, hand tools, payment for material testing, supervision cost, contractor's profit, overhead, administrative, and environmental mitigating cost will from part of the total estimated sub-project cost. Listed below are the most common indirect costs for proposed sub-projects.

Pre-engineering – this covers payments for the survey works, drawings and reproduction of plans and specifications. In case the community decided not to avail of the TAF, and the municipal engineering office has undertaken the activities, cost incurred will be charged on the LCC.

Contingency – this covers any cost variations during the course of sub-project implementation. Price escalation and other unforeseen activities not included in the original program of works can be charged to this line item.

Supervision cost – this refers to the estimated amount needed to supervise the implementation of sub-project. Presence of technical staff from the municipal or barangay LGUs during construction period can be computed and monetized as LCC. If the community decides to hire a service provider who will act as Project Engineer, payment of salary can be charged to this line item.

Taxes– once the community decides to engage the services of a private contractor, required taxes should be part of the total sub-project cost. Taxes

can computed as a certain percentage of the total direct cost. This is usually 6-7% of the direct cost of work items to be contracted out. During the derivation of unit item cost, this may be included so that it will not appear again as line item.

Under CFA, the taxes for materials and equipment are assumed to be incorporated already (VAT), thus, the total cost will no longer be included as a separate line item.

Materials Testing - this covers laboratory and field testing done before and during construction period to ensure that quality works are observed durinb sub-project implementation. An acceptable test result for work items undertaken should be attached to the billing of contractors before payments are made.

Hand Tools – this ensures that the labor force has enough hand tools that they can use during sub-project construction. These hand tools should be properly used and turned over to O&M groups during the inauguration of completed sub-project. These will help the O&M group maintain the structure for sustaining the services of the finished infrastructure.

Administrative cost – this covers expenses during procurement activities such as canvassing and serving purchase orders by the procurement team members. Reproduction of required procurement, finance and construction forms may also be charged to this line item. Estimates should be based on the prevailing transportation cost of the area to the market center. The frequency of procurement process should be considered as planned on their procurement packaging.

Overhead Cost – this covers salaries of Project Foreman and Engineer for the whole duration of the sub-project. This will avoid overestimation of labor cost once included in the derivation per work item.

Hereunder are the recommended derivations for the indirect cost[19] to be adopted by the Project.

[19] Area Coordinating Team Manual, February 2004, Step 11 Detailed Preparation

Table 1 ***Under Community Force Account:***

Particular	Less than Php500,000.00	Php500,000-1.0 million	Php1.0 M – 3.0 M and up
Pre-engineering	3% of the Direct Cost but not to exceed 20,000.00 or the actual cost incurred by the proponent.	3% of the Direct Cost but not to exceed 30,000.00 or the actual cost incurred by the proponent.	3% of the Direct Cost but not to exceed 70,000.00 or the actual cost incurred by the proponent.
Contingency	6-8% of the Direct Cost	5% of the Direct Cost	5% of the Direct Cost but not to exceed 200,000.00
Hand Tools / Personal Protective Equipment (PPE)	2% of the Direct Cost but not to exceed 10,000.00	Not to exceed 10,000.00	Not to exceed 10,000.00
Material Testing	Not to exceed 10,000.00[20]	Not to exceed 10,000.00	Not to exceed 10,000.00
Administrative cost	Estimated cost to be incurred during procurement activities and cost of forms reproduction. It should be base on the prevailing transportation cost of the area.		
Overhead Cost	Estimated cost for the salaries of Project Foreman and Engineer for the whole duration of sub-project implementation that are needed. This can also be part of the Direct Cost Item.		
Environmental Mitigating Cost	Not to exceed 5,000.00	Not to exceed 5,000.00	Not to exceed 5,000.00
Supervision Cost	3% of the Direct Cost but not to exceed 15,000.00	3% of the Direct Cost but not to exceed 25,000.00	3% of the Direct Cost but not to exceed 50,000.00

[20] August 2005 RIE Planning Workshop Agreements, material testing for other sub-project type other than roads will have a maximum amount of Php5,000.00

Table 2 Under Contract

Particular	Less than Php500,000.00	Php500,000 - 1.0 million	Php1.0 M – 3.0 M and up
Pre-engineering	3% of the Direct Cost but not to exceed 20,000.00 or the actual cost incurred by the proponent.	3% of the Direct Cost but not to exceed 30,000.00 or the actual cost incurred by the proponent.	3% of the Direct Cost but not to exceed 70,000.00 or the actual cost incurred by the proponent.
Contingency	10% of the Direct Cost	10% of the Direct Cost	10% of the Direct Cost
Taxes	7% of Direct Cost	7% of Direct Cost	7% of Direct Cost
Profit Margin	10% of Direct Cost	10% of Direct Cost	10% of Direct Cost
Hand Tools / Personal Protective Equipment (PPE)	2% of the Direct Cost but not to exceed 10,000.00	Not to exceed 10,000.00	Not to exceed 10,000.00
Material Testing	1% of the Direct Cost but not to exceed 10,000.00	Not to exceed 10,000.00.	Not to exceed 10,000.00.
Administrative cost	Estimated cost to be incurred during procurement activities and cost of forms reproduction. It should be base on the prevailing transportation cost of the area.		
Overhead Cost	Estimated cost for the salaries of Project Foreman and Engineer for the whole duration of sub-project implementation.		
Environmental Mitigating Cost	Not to exceed 5,000.00	Not to exceed 5,000.00	Not to exceed 5,000.00
Supervision Cost	3% of the Direct Cost but not to exceed 15,000.00	3% of the Direct Cost but not to exceed 25,000.00	3% of the Direct Cost but not to exceed 50,000.00

4.8 Preparation of Program of Works (POW)

The Program of Works is a document that contains information for identifying every proposed sub-project, like: the specific location, name, summary of work items to be undertaken and its corresponding costs. It also contains the physical target, a brief description of the sub-project, its mode of implementation, duration, and the minimum technical manpower and equipment requirements.

The POW shows the relationship of major work items to minor work items based on the percentage weight of each pay item. Percentage share per work item will depend on the total direct item cost divided by the total direct cost. All identified work items must total 100% percentage weight. Bigger percentage weight is considered for major work items while smaller percentage weights are for minor work items.

The cost sharing arrangement must also be reflected in the POW. Grant amount requirement and the distribution of Local Counterpart Contribution can easily be determined from this document. Breakdown of total direct cost in the form of materials, equipment rentals/POL products, skilled and unskilled labor cost can be identified. Likewise, the breakdown of indirect cost and the stakeholder who committed the particular item will also be known.

Though the manual discusses the technical aspects of the design preparations, experiences show that factors affecting the poor implementation of approved sub-projects come from the planning stage. For a detailed discussion of this aspect.please refer to the section on Project Development, CEAC Manual.

The following are **important reminders for Programmers** in preparing and filling-up the Program of Works.

1. Proper labeling or naming of the proposed sub-project is important. Use of an appropriate description like rehabilitation/improvement, or construction is important. Also specify if there is bridge component included in the proposal. This will help the Project establish the cost parameter for each road sub-category. The name of barangay/s or sitio/s where the road section will traverse should be clearly indicated in the title. This will help the monitoring team identify the exact location where the sub-project is being constructed.

2. The physical target for road sub-projects must be in kilometer while bridges should be in linear meter. Similarly, other horizontal projects such as drainage and culverts must be in linear meters.

3. The unit must be based on the acceptable unit of measurement (e.g. cubic meters for earthmoving and other similar pay items, square meters for concrete pavement, cubic meters for structural concrete, kilograms for reinforcing steel, etc.)

4. Item numbers 2 & 3 above must be adopted for commonality of presentation and understanding.

5. For establishing the regional unit cost parameter, the programmer must adopt the matrix presented above for deriving indirect costs. This will guide the reviewer if the proposed sub-project goes beyond the regional cost parameters. Review can be done by pay item for easy checking and validation.

6. Currently, the Bank allows the charging of taxes under Grant funds. This will eliminate delays on the part of the community in raising cash counterpart intended for taxes.

7. Should the LGU have some equipment offers for the implementation stage, it can only be committed to a maximum of two (2) road sub-projects in order not to delay the implementation of other similar sub-projects in the municipality.[21]

[21] January 2005 NPMO Policy Issuance

8. Rounding-off the total estimated project cost to the nearest hundredths must be observed by the programmer both on the grant and LCC amount.

No proposed sub-projects will be approved and implemented unless the Program of Works is properly prepared, reviewed and approved by the BSPMC chairperson and noted by the regional technical staff. In line with the project's local governance goal, the Barangay Chairman and Municipal Mayor must sign the document to acknowledge the project works requirement and the cost sharing arrangement[22]. A template of the POW is presented in the Annex.

Pitfalls in Project Implementation (from Planning Stage):

- Inadequate job site information
- Poor definition of materials and technical specifications
- Poor allocation of resources
- Poor cost data and man-hour gathering
- Poor formulation of the tasks per work item
- Poor financial estimates
- Improper scheduling
- Poor communication and client relations

[22]September 25, 2008 NPMT Policy issuance

V. Rural Water Supply System

"Safe drinking water and basic sanitation is of crucial importance to the preservation of human health, especially among children. Water-related diseases are the most common cause of illness and death among the poor of developing countries. According to the World Health Organization, 1.6 million deaths of children per year can be attributed to unsafe water, poor sanitation, and lack of hygiene. The WHO/UNICEF Joint Monitoring Program evaluated that meeting the MDG Target 10 would avert 470 000 deaths per year."

World Water Council, Water at a Glance

The original design for water is to sustain life. Without water, life will be impossible. With the onset of development, the demand has evolved from mere domestic use to irrigation, industry, power generation, transportation and recreation.

Although water is abundant, 97% is on the oceans and only 3% is fresh water. The ratio of freshwater is unevenly distributed globally causing water scarcity in some areas. This quantity problem is further exacerbated by unregulated water usage and the population brought by man's activities. Uncontrolled wastes have found their way of degrading the quality of water.

In areas covered by the Project, most are generally in need of access to safe potable water supply system. Appropriation and usage of the water are identified as provided for by Law, PD 1067-Water Code of the Philippines. Use of water for domestic purposes is defined for the utilization for drinking, washing, bathing, cooking and other household needs, home gardens, and watering of lawns or domestic animals.[23] Potable water is suitable for drinking and cooking purposes as defined by the Philippine National Standard for Drinking Water of 1993. The water must be free of microorganisms or disease-producing bacteria (pathogens). In addition, the water should not possess undesirable tastes, odors, color, level of radioactivity, turbidity or chemicals.

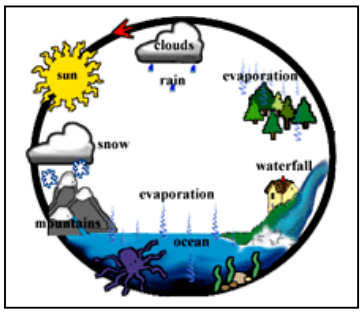
Throughout the years of developing rural areas, more of government and private investments went to the delivery of potable water supply system. But still, access to safe drinking water remains to be the agenda of the government and more importantly, it is included in the blueprint of the Millennium Development Goals (MDGs). Various experiences in implementing rural water systems are shared by several agencies in the water sector. Planning methodologies, design options, operation and maintenance activities, but the most important aspect is the participation of the community in all stages of implementing water supply system.

Under the KC:KKB Project, water supply sub-projects ranked second in terms of number approval with 24 percent. For the Designer to come up with a plan, the need to

[23] Art. 10; P.D. 1067, *Water Code of the Philippines*

understand some information related to water cycle and various sources. Project requirements from criteria for selections, application of appropriate technology, preparation of engineering plans will be discuss in this chapter.

5.1 Water Cycle



The water cycle is also known as the hydrologic cycle. There is the same amount of water on the Earth now as there was when the Earth began. The water cycle is how the earth's water recycles itself.

The cycle includes precipitation, evaporation, condensation, and transpiration. Earth's water keeps changing from liquid water to vapor and then back again. This cycle happens because of the sun's heat and gravity.

5.2 Water Sources

Types of water sources are classified as Surface, Ground and Atmospheric or simply rainwater.

5.2.1 Surface water - is the easiest water to understand because we see it every day. It is any water that travels or is stored on top of the ground. This would be the water that is in rivers, lakes, streams, reservoirs, even the oceans--even though we can't drink salt water. Surface water is treated before it becomes drinking water. This is done because things like leaves, fish, animal droppings, and boat fuel can easily get into bodies of water mentioned.

5.2.2 Ground Water - Any water that is underground is groundwater. In the water cycle, some of the precipitation sinks into the ground and goes into watersheds, aquifers and springs. Groundwater as a source can be extracted through the following:

A. Wells – groundwater can be tapped by digging a hole or sinking pipes into the ground and installing water-drawing equipment such as pumps. Wells can be classified as follows:

Deep Well – are wells with depths greater than 20 meters constructed in areas characterized by aquifers generally located at a depth of more than 20 meters below ground surface.

Shallow Well – wells with depth of not more than 20 meters and are recommended for rural water supply development, particularly level I services. Static water level in these areas are generally within 6 meters below ground surface.

Dug Well – normally, a circular or rectangular in shape with a diameter from 1.0 to 1.50 meters. After the well is dug, it is necessary to put a lining made of permanent materials like masonry, brickworks or reinforced concrete to serve as protection against surface or outside contamination.

B. Springs – occurs when water in water-bearing stratum reaches the surface of the ground. A spring is the result of an aquifer being filled to the point that the water overflows onto the land surface. Spring can be developed by enlarging

the water outlet and constructing an intake structure for water catchment and storage. There are various types of Springs as enumerated below:

Depression Spring – formed when the water reaches the surface

ContactSpring– occurs when permeable rock units overlie rocks of much lower permeability. It may result from the water table or perched water table. Another would be where permeable zone occurs between basalt flows in permeable basalt.

Fault Spring – occurs where a faulted rock unit that is impermeable is juxtaposed adjacent to an aquifer water to discharge at the surface.

Sinkhole Spring – water carried through fractures or conduits in limestone may discharge in a low area or sinkhole. Such water is usually under artesian pressure.

Joint and Fracture Spring – occurs when joints, shear and fracture zones develop in low permeability rock and water conducted through these opening appears at the ground surface.

Karst Spring – occurs where sinkholes develop from collapsed caverns.

5.3 Minimum Selection Criteria

The following are important information needed to analyze the possible water supply situation in the area. This can be done during the environmental scanning or social investigation stage of the technical staff in the barangays.

1. Existing water system used by the community members (e.g. handpumps or dug wells, level II tapstand etc.). Analyze the causes why the barangay has a problem of access to water if there are existing water system structures.
2. Determine the total number of households of the target service area with, and without, access to water supply system.
3. As much as possible, the water source must be reliable and sufficient to supply the consumption of the target area.
4. Spring source is preferred over underground water source as a water source, particularly if not reliable at the area.
5. Avoid constructing an elevated tank if a ground tank is possible, unless it is necessaryand more appropriate.
6. Appropriate construction materials to be used for the system must be carefully selected depending on the type of ground surface, e.g., a rocky terrain might require G.I. pipes, while embedded plastic pipes can be designed for suitable ground surfaces..
7. If the water source is far away from the target area and it will not be economical to construct a piped water system, a design level I or other alternative design, such as rain water collector, can be resorted to, as the case maybe.

The site validation report will help capture the information required to come up with an initial assessment of the project area. Technical staffs have to analyze the information to come up with recommended design for the proposed water supply system.

The sanitary conditions and practices of the barangay should also be analyzed. Proposed sub-project interventions may not be effective in addressing the health problems of the community if this aspect is ignored.

5.4 Selection of Appropriate Design and Technology Application

Various forms of technology have already been adopted in rural communities, from conventional hand pumps to modern technology, like solar-powered pump and others. Selection of appropriate technology for water and sanitation projects is anchored on the following related concerns at the local level;

(i) Institutional support
(ii) Technical support
(iii) Financial capability
(iv) Environmental aspect, and
(v) Socio-cultural practices.

The most appropriate technology is the one that delivers the most benefits at the least cost. Thus, one important way of determining the most appropriate combination is through the cost-benefit ratio.[24]

5.4.1 Levels of service – For a common understanding on the types of water supply systems, the government's definition based on NEDA Board Resolution No. 12, Series of 1995 will be adopted;

Level I – Point Source; a protected well or developed spring with an outlet, but without a distribution system, generally adaptable for rural areas where the houses are thinly scattered. A Level I facility normally serves an average of 15 households. The farthest user is not more than 250 meters from the facility to have an access.

Level II – Communal faucet or water tapstand; a system composed of a source, a reservoir, a piped distribution network and communal faucets. Usually, 1 faucet serves 4-10 households. Generally suitable for rural and urban fringe areas where houses are clustered densely to justify a simple piped system. To have an access, the farthest house is not more than 250 meters from communal faucet.

Level III – Waterworks system or individual house connections, a system composed of a source, a reservoir, a piped distribution network and household taps. It is generally suited for densely populated urban areas.

5.4.2 Design Considerations – technical and socio-cultural practices need to be considered during the sub-project planning and development stage. Based from the results of field/site validation of water sources, observations of the existing water system in the area, the DAC or Service Provider is expected to come up with possible alternative designs.

[24] pp. 39, *Water and Sanitations Services for All*, LGSP

5.4.3 Alternative Design – in areas where scarcity of potable water is experienced, e,g. island communities, etc., an option to construct a rain water collector maybe suggested to the community. This has to be explained to the community as to the rate of consumption per capita.

The technology using the Ferro Cement can also be adopted in the construction of small reservoir.

5.4.4 Considerations on the final design

During the Project Development Workshops at the community level, the Facilitator has to explain the recommended procedures for the selection of water supply system. This must be presented and explained to the community members before finalizing the engineering plan.

Steps	Considerations
1. Choice of technology	✓ Existing and potential water sources ✓ User preference by gender ✓ Service level ✓ Cost ✓ reliability
2. Initial degree of community management	✓ Skills availability ✓ Capacity to organize & integrate functions ✓ Cost of management ✓ Risk of management failure
3. Division of cost	✓ User's ability and willingness to pay tariff ✓ Availability of subsidies
4. Sustainability	✓ Is service level manageable, affordable and agreed by the community/ies

5.4.5Technical design considerations[25] - several factors have to be considered in the technical design of water supply system (WSS) in order to be functional and sustainable:

a. Volume of discharge of the proposed water source, either spring or underground source (for level II).

b. Number of Households, current and projected population.
   Projected Population = [1 x (growth rate x design years)] current population
   (Used as the design population)

c. Water consumption rate per level type;
   Level I – at least 20 liters per capita per day (lpcd)
   Level II – at least 60 lpcd
   Level III – at least 100 lpcd

[25]Based from the Water Supply Design Manual of National Water Resource Board (NWRB)

d. Average Day Demand (ADD) = design population x water consumption
(Used as basis for the design of reservoir size. Only 1/4 volume of the ADD)

e. Maximum Day Demand (MDD) = 1.30 x Ave. Day Demand
(Used as basis for the design of pump)

f. Maximum Hour-Demand (MHD) =

$$\frac{3.0 \times \text{Ave. Day Demand}}{24}$$ *; if population less than 100 to 600*

$$\frac{2.5 \times \text{Ave. Day Demand}}{24}$$ *; if population more than 600*

(Used as basis in the design of pipe sizes)

g. Elevations and ground distance of water source to water tanks and to the target area. An absolute minimum static head or elevation difference of 20ft or 6.0meters between water tank and service area is necessary for satisfactory gravity flow, even though less area may be covered. The Hydraulic Grade Line (HGL) along the transmission line should be greater than 10 meters above the ground at all points in the system, except when unavoidable. Never allow the HGL to go underground.

h. Location of households to determine the distribution pipe system. Clustering of households in order to design the location of tapstands and the distribution system.

i. Availability of power source and distance to the nearest connection. This is important should the design require the use of a water pump. If the community cannot afford to pay the power charge, recommend an alternative design like solar power pump, particularly for far-flung barangays.

j. Available materials at the community level. The designer must come up with an appropriate design and specifications to include the capacity of the community to provide counterpart resources for them to own the system.

k. Delivery and type of access route for materials to be hauled to site. Double or triple handling of construction materials to be procured should be considered especially for difficult and far-flung areas.

l. Availability of skilled workers at the community and nearby locality. This will determine the procurement method to be adopted and whether the community has the capability or capacity to construct the system. Previous experiences demonstrated that communities are capable of implementing systems with proper guideance and supervision.

m. Type of users of the communal faucets (e.g. men, women and children). If applicable, the designer can make necessary revisions on the standard KC design to suit the intended users. Additional structures such as a wash area, away from the tapstands, can be constructed, depending on the socio-cultural practices of the community.

5.4.6 Validation of water source – this is a compulsory activity to be conducted by the technical staff during the identification stage. For spring sources, water yield has to be measured to determine if the source is sufficient to supply the target area. During source verification, the project's field engineers will provide technical information, according to the community's level of comfort, as basis for any decision. A table matrix showing the water yield against the target number of households will illustrate if the water source is sufficient or there is a need to look for another source. If in case the only available potable water source yield is not sufficient to cover the design requirement of 60lpcd, further discussions on the water usage will have to be done and the design adjusted. Agreements have to be presented and agreed upon by the community members with proper documentation. Table ___ is shown in pages 63-65. This will guide the technical staff to immediately make a recommendation on whether the water source in sufficient or need to look for additional source.

5.5Preparation of detailed engineering requirement

5.5.1 Survey and Diagrams

Traverse survey - For water supply system subprojects, this can be undertaken simultaneously with the topographic survey. This survey is conducted to identify the proposed route of the transmission and distribution lines. Likewise, location of permanent structures to be constructed (intake box, reservoir, tapstands) and water ways are mapped out including the identification of lot owners along the proposed traverse.

Profile survey – This survey will determine the actual ground elevation at any required location, based on the alignment established during the traverse survey. The result of this type of survey will provide information on: difference of elevation from the source to the target area (for gravity driven system); difference of elevation from proposed location of reservoir to service area; and elevation of proposed location of tapstands. This will help the designer check the Hydraulic Grade Line (HGL) of the proposed system.

Both surveys results have to be drawn in Half-roll cross section paper with a suggested dimension of 50 cm x 80 cm. The proposed location/station of structures and the target households to be served should be indicated in the plan. It is important to indicate the stations in order to determine the length of pipelines and the sizes, type and specification for the proposed waterlines. Scale to be adopted must be 1:100 m.

Schematic plan – a diagram showing the elevation and distances of water source, reservoir, pipes directions, location of tapstands, and the number of target households to be served by each tapstand. This will guide the designer in the analysis of hydraulic design of the proposed water supply system.

Connection Details – critical pipe connections must be drawn in a drawing sheet (50 cm x 80 cm) to provide the details showingthesupport required. Design for pipes crossing river or stream has to be shown in the drawings. Likewise, if the system is to be driven by pump, technical specifications of the designed water pump including the pump house has to be reflected on the shop drawings.

5.5.2 Structural plans, designs and technical specifications

The structural design plans for intake or collection tank, reservoir will be decided on based on the technical considerations from previous inputs. Plans, details and corresponding specifications (type of materials to be used and dimensions) must be drawn in a 50 cm x 80 cm tracing paper. Appropriate scale (1:20, 1:40) must be adopted to show the dimension of the structures depending on the design size of proposed structures. A standard design of a tapstand is provided to have a commonality and same image for KC water supply sub-projects.

Shown below are tables to guide the field engineers in determining the capacity of the water source to meet the demand of the community (number of households) during the conduct of water source validation. Table __

5.5.2.1 Design of water reservoir

It is necessary to determine the supply and demand side of the proposed water supply system. From the result of surveys and plotted plans, determine the elevations of water source (for spring source) and the target area. The capacity of the reservoir tank can be done mathematically as shown in the matrix below:

Design Criteria: Example 1

Particular	Description	Data	Unit
Number of Household	Actual number of household beneficiaries	250	HH
Average Household Member	6 members	6	No.
Total Population	(No. of HH)(Ave. HH Member)	1,500.00*	No.
Average Population Growth Rate	Percent annually	3	%
Design Lifespan	No. of years	10	Years
Design Population	(No. of HH)(1.03)^15	2,336.95	No.
Average Daily Water Demand per Capita per Day	60 liters per capita per day	60	Liter
Average Daily Demand (ADD)	(Design population)(60 liters/capita/day)	140,217	Liter
Average Demand per Second	ADD/(24x60x60)	1.623	LPS

* = more appropriate if actual figure is provided

If the volume of supply is less than the demand volume there is a need to construct a storage tank. On the other hand, if the supply is greater than the demand, the need to construct a storage is necessary during maintenance period. This is to avoid service interruption during cleaning period.

As a rule of thumb, the size of the proposed storage tank is one-fourth (1/4) of the Average Daily Demand (ADD). The dimensions of the tank may be computed from the volume requirement. Bear in mind that the derived size considers only inside dimensions and there is further need to consider the free-board of at least 0.30 meters from the elevation of the outlet pipe and the top slab.

5.5.2.2 Design of water pipelines

In the design of water pipelines or the Hydraulic Analysis, the table below will guide the user on how to make use of the engineering plans for checking the assumptions on the pipes' diameter to be used for the transmission and distribution lines.

Pipeline Design – Input/Output Data

Sec	Nodes		Sec Length (m)	HH Served	Peak Flow (lps)	Node Elev Diff. (m)	Total Available Head (m)	Pipe Dia. (mm)	Pipe Dia. (Option, mm)	Head Loss per 100 m	Actual Head Loss (m)	Residual Heads (m)
	1	2										
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7a)	(8)	(9)	(10)	(11)	(12)

Columns	**Represent:**
1	Pipe section under consideration. Use lower case letter (a b, c…)
2, 3	Pipe section and nodes. Use numerical figures (9, 8, 7…) Put node elevations preferably using masl as datum
4	Section Length
5	Total number of households served by the pipe section considered
6	Peak flow or maximum hour demand (mhd) by the total number of household served by the pipe section under consideration. For the transmission, ADF should be used in sizing the transmission pipe. mhd = 2.5 x GRF x N x ave HH Size x PCWC/86, 400 where: GRF = Growth rate factor (for __ years @ growth rate %, GRF) N = Total number of households served by the pipe section (col 5) PCWC = Per capita water consumption mhd = N/_____
7	Difference of elevation between the nodes of the section being considered
7a	Summation of node elev. Diff. (col. 7) and residual head, Rh (col. 12)
8	Approximate pipe diameter as determined by the Darcy-Weisbach formula Dˆ5 = 0.00165 x L x Qˆ2/Hf where: f = 0.02 (approximation only) L = Length of pipe section (Col 4) Q = Peak flow in pipe section (col 6) Hf = Max gravity head for the pipe section (col 7a)
9	Nominal pipe diameter available nearest to the approximate pipe diameter
10	Enter table 9.1 or 9.2. Friction head Losses in GI or plastic Pipes. Interpolate if necessary
11	Compute actual head loss for the pipe section length
12	Pressure (Residual head) = 7a-11 P = F/A where: P = pressure F = Weight of water x specific weight of water (1 kgf/liter or 1000 kgf/m³ or 9.807 KN/m³ A = area

Branches Nodes	Sitio or Cluster Served	Number of HH	ADD (lps)	Total Headloss	Remarks		
					$H_{elevation}$		

Site development plan must also be drafted to indicate the location of the proposed water supply system in the locality.

All engineering plans must be drawn to scale in 50cm width and 80 cm length drawing sheets. Title blocks must follow the format provided by the Project including the Logo. The designer will affix his signature including the PRC license number and the Professional Tax Receipt (PTR).

Spring Yield	0.25-0.49 lps			0.50-0.74 lps			0.75-0.99 lps			1.0-1.24 lps			1.25-1.49 lps		
Daily Supply (l)	21,600.00			43,200.00			64,800.00			86,400.00			108,000.00		
Max water qty that can be stored during night time (l)	9,720.00			19,440.00			29,160.00			38,880.00			48,600.00		
Projected Total Supply (l)	31,320.00			62,640.00			93,960.00			125,280.00			156,600.00		
Projected or future HH beneficiaries	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir
		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S
50 or less hh	18,000.00	6,000.00	7,200.00	18,000.00	6,000.00	(3,600.00)	18,000.00	6,000.00	(14,400.00)	18,000.00	6,000.00	(25,200.00)	Not necessary		
51-75 hh	27,000.00	9,000.00	9,720.00	27,000.00	9,000.00	5,400.00	27,000.00	9,000.00	(5,400.00)	27,000.00	9,000.00	(16,200.00)	27,000.00	9,000.00	(27,000.00)
76-100 hh	36,000.00	12,000.00	9,720.00	36,000.00	12,000.00	14,400.00	36,000.00	12,000.00	3,600.00	36,000.00	12,000.00	(7,200.00)	36,000.00	12,000.00	(18,000.00)
101-125 hh	Optional			45,000.00	15,000.00	19,440.00	45,000.00	15,000.00	12,600.00	45,000.00	15,000.00	1,800.00	45,000.00	15,000.00	(9,000.00)
124-150 hh	Optional			54,000.00	18,000.00	19,440.00	54,000.00	18,000.00	21,600.00	54,000.00	18,000.00	10,800.00	54,000.00	18,000.00	-
151-175 hh	Optional			63,000.00	21,000.00	19,440.00	63,000.00	21,000.00	29,160.00	63,000.00	21,000.00	19,800.00	63,000.00	21,000.00	9,000.00
176-200 hh	not recommended			Optional			72,000.00	24,000.00	29,160.00	72,000.00	24,000.00	28,800.00	72,000.00	24,000.00	18,000.00
201-225 hh	not recommended			Optional			81,000.00	27,000.00	29,160.00	81,000.00	27,000.00	37,800.00	81,000.00	27,000.00	27,000.00
226-250 hh	not recommended			Optional			90,000.00	30,000.00	29,160.00	90,000.00	30,000.00	38,880.00	90,000.00	30,000.00	36,000.00
251-275 hh	not recommended			Optional			Optional			99,000.00	33,000.00	38,880.00	99,000.00	33,000.00	45,000.00
276-300 hh	not recommended			Optional			Optional			108,000.00	36,000.00	38,880.00	108,000.00	36,000.00	48,600.00
301-325 hh	not recommended			Optional			Optional			117,000.00	39,000.00	38,880.00	117,000.00	39,000.00	48,600.00
326-350 hh	not recommended			Optional			Optional			126,000.00	42,000.00	38,880.00	126,000.00	42,000.00	48,600.00
356-375 hh	not recommended			not recommended			Optional			Optional			135,000.00	45,000.00	48,600.00
376-400 hh	not recommended			not recommended			Optional			Optional			144,000.00	48,000.00	48,600.00
401-425 hh	not recommended			not recommended			Optional			Optional			153,000.00	51,000.00	48,600.00
426-450 hh	not recommended			not recommended			Optional			Optional			Optional		
451-475 hh	not recommended			not recommended			Optional			Optional			Optional		
476-500 hh	not recommended			not recommended			Optional			Optional			Optional		

Spring Yield	1.50-1.74 lps			1.75-1.99 lps			2.0-2.24 lps			2.25-2.49 lps			2.50-2.74 lps		
Daily Supply (l)	129,600.00			151,200.00			172,800.00			194,400.00			216,000.00		
Max water qty that can be stored at night time (l)	58,320.00			68,040.00			77,760.00			87,480.00			97,200.00		
Projected Total Supply (l)	187,920.00			219,240.00			250,560.00			281,880.00			313,200.00		
Projected or future HH beneficiaries	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir
		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S
50 or less hh	n/n			n/n			n/n			n/n			n/n		
51-75 hh	27,000.00	9,000.00	(37,800.00)	n/n			n/n			n/n			n/n		
76-100 hh	36,000.00	12,000.00	(28,800.00)	36,000.00	12,000.00	(39,600.00)	n/n			n/n			n/n		
101-125 hh	45,000.00	15,000.00	(19,800.00)	45,000.00	15,000.00	(30,600.00)	45,000.00	15,000.00	(41,400.00)	45,000.00	15,000.00	(52,200.00)	n/n		
124-150 hh	54,000.00	18,000.00	(10,800.00)	54,000.00	18,000.00	(21,600.00)	54,000.00	18,000.00	(32,400.00)	54,000.00	18,000.00	(43,200.00)	54,000.00	18,000.00	(54,000.00)
151-175 hh	63,000.00	21,000.00	(1,800.00)	63,000.00	21,000.00	(12,600.00)	63,000.00	21,000.00	(23,400.00)	63,000.00	21,000.00	(34,200.00)	63,000.00	21,000.00	(45,000.00)
176-200 hh	72,000.00	24,000.00	7,200.00	72,000.00	24,000.00	(3,600.00)	72,000.00	24,000.00	(14,400.00)	72,000.00	24,000.00	(25,200.00)	72,000.00	24,000.00	(36,000.00)
201-225 hh	81,000.00	27,000.00	16,200.00	81,000.00	27,000.00	5,400.00	81,000.00	27,000.00	(5,400.00)	81,000.00	27,000.00	(16,200.00)	81,000.00	27,000.00	(27,000.00)
226-250 hh	90,000.00	30,000.00	25,200.00	90,000.00	30,000.00	14,400.00	90,000.00	30,000.00	3,600.00	90,000.00	30,000.00	(7,200.00)	90,000.00	30,000.00	(18,000.00)
251-275 hh	99,000.00	33,000.00	34,200.00	99,000.00	33,000.00	23,400.00	99,000.00	33,000.00	12,600.00	99,000.00	33,000.00	1,800.00	99,000.00	33,000.00	(9,000.00)
276-300 hh	108,000.00	36,000.00	43,200.00	108,000.00	36,000.00	32,400.00	108,000.00	36,000.00	21,600.00	108,000.00	36,000.00	10,800.00	108,000.00	36,000.00	-
301-325 hh	117,000.00	39,000.00	52,200.00	117,000.00	39,000.00	41,400.00	117,000.00	39,000.00	30,600.00	117,000.00	39,000.00	19,800.00	117,000.00	39,000.00	9,000.00
326-350 hh	126,000.00	42,000.00	58,320.00	126,000.00	42,000.00	50,400.00	126,000.00	42,000.00	39,600.00	126,000.00	42,000.00	28,800.00	126,000.00	42,000.00	18,000.00
356-375 hh	135,000.00	45,000.00	58,320.00	135,000.00	45,000.00	59,400.00	135,000.00	45,000.00	48,600.00	135,000.00	45,000.00	37,800.00	135,000.00	45,000.00	27,000.00
376-400 hh	144,000.00	48,000.00	58,320.00	144,000.00	48,000.00	68,040.00	144,000.00	48,000.00	57,600.00	144,000.00	48,000.00	46,800.00	144,000.00	48,000.00	36,000.00
401-425 hh	153,000.00	51,000.00	58,320.00	153,000.00	51,000.00	68,040.00	153,000.00	51,000.00	66,600.00	153,000.00	51,000.00	55,800.00	153,000.00	51,000.00	45,000.00
426-450 hh	162,000.00	54,000.00	58,320.00	162,000.00	54,000.00	68,040.00	162,000.00	54,000.00	75,600.00	162,000.00	54,000.00	64,800.00	162,000.00	54,000.00	54,000.00
451-475 hh	171,000.00	57,000.00	58,320.00	171,000.00	57,000.00	68,040.00	171,000.00	57,000.00	77,760.00	171,000.00	57,000.00	73,800.00	171,000.00	57,000.00	63,000.00
500 hh	180,000.00	60,000.00	58,320.00	180,000.00	60,000.00	68,040.00	180,000.00	60,000.00	77,760.00	180,000.00	60,000.00	82,800.00	180,000.00	60,000.00	72,000.00

Spring Yield	2.75-2.99 lps			3.0-3.24 lps			3.25-3.49 lps			3.50-3.74 lps			3.75-3.99 lps		
Daily Supply (l)	237,600.00			259,200.00			280,800.00			302,400.00			324,000.00		
Max water qty that can be stored at night time (l)	106,920.00			116,640.00			126,360.00			136,080.00			145,800.00		
Projected Total Supply (l)	344,520.00			375,840.00			407,160.00			438,480.00			469,800.00		
Projected or future HH beneficiaries	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir	Aver. Daily Use (l)	Computed Capacity (l)	Reservoir
		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S		⅓ ADU	D-S
50 or less hh	n/n			n/n			n/n			n/n			n/n		
51-75 hh	n/n			n/n			n/n			n/n			n/n		
76-100 hh	n/n			n/n			n/n			n/n			n/n		
101-125 hh	n/n			n/n			n/n			n/n			n/n		
124-150 hh	54,000.00	18,000.00	(64,800.00)	n/n			n/n			n/n			n/n		
151-175 hh	63,000.00	21,000.00	(55,800.00)	63,000.00	21,000.00	(66,600.00)	63,000.00	21,000.00	(77,400.00)	n/n			n/n		
176-200 hh	72,000.00	24,000.00	(46,800.00)	72,000.00	24,000.00	(57,600.00)	72,000.00	24,000.00	(68,400.00)	72,000.00	24,000.00	(79,200.00)	n/n		
201-225 hh	81,000.00	27,000.00	(37,800.00)	81,000.00	27,000.00	(48,600.00)	81,000.00	27,000.00	(59,400.00)	81,000.00	27,000.00	(70,200.00)	81,000.00	27,000.00	(81,000.00)
226-250 hh	90,000.00	30,000.00	(28,800.00)	90,000.00	30,000.00	(39,600.00)	90,000.00	30,000.00	(50,400.00)	90,000.00	30,000.00	(61,200.00)	90,000.00	30,000.00	(72,000.00)
251-275 hh	99,000.00	33,000.00	(19,800.00)	99,000.00	33,000.00	(30,600.00)	99,000.00	33,000.00	(41,400.00)	99,000.00	33,000.00	(52,200.00)	99,000.00	33,000.00	(63,000.00)
276-300 hh	108,000.00	36,000.00	(10,800.00)	108,000.00	36,000.00	(21,600.00)	108,000.00	36,000.00	(32,400.00)	108,000.00	36,000.00	(43,200.00)	108,000.00	36,000.00	(54,000.00)
301-325 hh	117,000.00	39,000.00	(1,800.00)	117,000.00	39,000.00	(12,600.00)	117,000.00	39,000.00	(23,400.00)	117,000.00	39,000.00	(34,200.00)	117,000.00	39,000.00	(45,000.00)
326-350 hh	126,000.00	42,000.00	7,200.00	126,000.00	42,000.00	(3,600.00)	126,000.00	42,000.00	(14,400.00)	126,000.00	42,000.00	(25,200.00)	126,000.00	42,000.00	(36,000.00)
356-375 hh	135,000.00	45,000.00	16,200.00	135,000.00	45,000.00	5,400.00	135,000.00	45,000.00	(5,400.00)	135,000.00	45,000.00	(16,200.00)	135,000.00	45,000.00	(27,000.00)
376-400 hh	144,000.00	48,000.00	25,200.00	144,000.00	48,000.00	14,400.00	144,000.00	48,000.00	3,600.00	144,000.00	48,000.00	(7,200.00)	144,000.00	48,000.00	(18,000.00)
401-425 hh	153,000.00	51,000.00	34,200.00	153,000.00	51,000.00	23,400.00	153,000.00	51,000.00	12,600.00	153,000.00	51,000.00	1,800.00	153,000.00	51,000.00	(9,000.00)
426-450 hh	162,000.00	54,000.00	43,200.00	162,000.00	54,000.00	32,400.00	162,000.00	54,000.00	21,600.00	162,000.00	54,000.00	10,800.00	162,000.00	54,000.00	-
451-475 hh	171,000.00	57,000.00	52,200.00	171,000.00	57,000.00	41,400.00	171,000.00	57,000.00	30,600.00	171,000.00	57,000.00	19,800.00	171,000.00	57,000.00	9,000.00
500 hh	180,000.00	60,000.00	61,200.00	180,000.00	60,000.00	50,400.00	180,000.00	60,000.00	39,600.00	180,000.00	60,000.00	28,800.00	180,000.00	60,000.00	18,000.00

5.5.2.3. Technical specifications

Excavation - This item shall consist of the necessary excavation for removal of all foundation of materials of whatever nature encountered, including all obstructions of any nature that would interfere with the proper execution and completion of the work.

Pipeline Trench Excavation - Unless otherwise shown on the approved Plans and Specifications or ordered by the Engineer, excavation for pipeline shall be open-cut trenches. The bottom of the trench, including any shoring shall have a minimum width equal to the outside diameter of the pipe plus 300 mm and a maximum width equal to the outside diameter of the pipe plus 600 mm except when otherwise shown or ordered by the designated/assigned Engineer, the bottom of the trench shall be excavated uniformly to the grade of the bottom of the pipe. The trench bottom shall be given a final trim using a string line for establishing grade, such that each pipe section when first laid will be wholly in contact with the ground or bedding along the extreme bottom of the pipe. Rounding out the trench to form a cradle shall not be required. The maximum amount of open trench permitted at any one time and in one location shall be 300 meters of the length necessary to accommodate the number of pipes installed in one day, whichever is greater. Barricades and warning lights satisfactory to the designated/assigned Engineer shall be provided and maintain for all trenches left open overnight except at intersections and driveways in which case heavy steel plates, adequately braced bridges or other type of crossing capable of supporting vehicular traffic shall be furnished as directed by the Engineer.

Backfill and Fill **-** This item shall consist of all operations required to replace excavated and unsuitable materals to fill up depression to grade or to built up low areas in accordance with the approved Plans and Specifications.

Method of Measurement

The quantity to be paid for shall be the volume of the materials excavated in cubic metre calculated by multiplying the horizontal area of the bottom of the structure or open-cut trench by the average depth. The average depth shall be calculated from the finished surface of the grade shown on the drawing or the original ground level, whichever is the lowest.

Basis of Payment

Payment for all work under this item shall be made at the contract unit price per cubic metre for earthwork which price and payment shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete all work.

Installation of Pipeline - This item shall consist of furnishing and installation of all pipes, fittings, closure pieces, bolts, nuts, gaskets, jointings, materials and appurtenances as shown and specified on the drawings, and as required by the designated/assigned Engineer for a complete and workable piping system.

Method of Measurement

The quantity to be paid under this item shall be the length in metres of pipes in place completed and accepted, measured from end to end of the pipeline.

Basis of Payment

The quantity determined as provided above, shall be paid for or the contract price per metre for pipe actually installed and payment shall constitute full compensation for furnishing and installation of all pipes, fittings, closure pieces, bolts, nuts, gaskets, jointing materials and for all labor, equipment, tools, and incidentals necessary to complete the work.

5.5.3Preparation of quantity and cost estimates

Computation of quantity take-off must be based from the engineering plans. Similar principles as discussed in the road section will apply for the preparation of quantity and cost estimates for water and other sub-project types. Derivation of unit pay items must adopt the manual capability outputs provided in this manual to determine the manpower requirement, duration of particular pay item. Water system subproject is a labor intensive type so the programmer must be aware of the capability output per subsidiary works in order to avoid miscalculation.

The programmer must be aware of the current commercial prices for the procurement of construction materials particularly for the water pipes. The quantity estimates must not be excessive as to the required in order to be cost effective. You may hardly miss the quantity as the length of water pipeline is direct counting based from the plan.

It is important to determine the station where changes in the size of pipes occur in order to compute the ground distance of the required pipes for easy computation.

Fittings and valves (i.e gate valves, blow-off valves, globe valves, etc.) must be carefully analyzed in the detailed estimates as reflected from the plans.

5.5.4 Preparation of Program of Works

In previous manual, the Project has listed appropriate descriptions and pay item numbers for water supply system based on DPWH specifications. It was observed, however, that the field staff are more comfortable using the roman numerals for work items. The Project will allow the current practice provided that proper description and appropriate unit of measurement will be adopted for the proposed water supply system. To establish a more comparable unit cost per item, it is suggested that the following work items adopt the following units of measurement;

Structure Excavation - for the preparation of foundation works for intake box and reservoir. The unit of measurement must be in Cubic Meter.

Trench Excavation – this includes excavation for all water pipelines. The unit of measurement must be in Cubic Meter.

Structural Concrete – all necessary concrete works for intake box and reservoir. This includes subsidiary work items and materials for concrete pouring. The unit of measurement must be in Cubic Meter of concrete in-place. Sometimes the volume of the tanks is mistakenly used as quantity for measurement.

Reinforcing Steel – all reinforcing bars required for the construction of all structures. This includes fabrication and installation of specified reinforcing bars. The unit of measurement must be in Kilograms.

Transmission Line – piping works from source to water reservoir. This includes laying of pipes and backfilling works. Required fittings are included in the pay items. The unit of measurement must be in Linear Meter.

Distribution Lines - piping works from water reservoir to tapstands. This includes laying of pipes and backfilling works. Required fittings are included in the pay items. The unit of measurement must be in Linear Meter.

Pump and accessories – installation of water pump including the required accessories. The unit of measurement can be in Unit.

Pump house – construction of the pumping house. The unit of measurement must be in Square Meter.

Tapstand– construction and installation of fittings for the communal faucet in strategic locations in the community. The unit of measurement can be in Unit.

5.5.5 Derivation of Tariff

Before the finalization of plans and specifications, it is important to discuss with community members and potential water consumers the operation and maintenance arrangement after completion particularly for tariff collections. The designer and facilitator must emphasize and understand the affordability and willingness of the community members to pay tariff for the possible design of water system. From these discussions, the engineering plans can now be finalized provided that the initial tariff was agreed and properly documented.

A sample procedure for deriving tariff is show in the Annex of this manual_ to guide the facilitator in discussing with community members. The complexity of a pump driven type of system is provided so that simplification to other type of system may be derived.

For spring source water system, it is also recommended that the tapstand be provided with water meter in order to check the volume of water consumption. The tariff arrangement may vary depending on the agreement made by the consumers. It could either be shared equally by the household consumers or any other acceptable arrangement. It is important that the arrangements are discuss, agreed and properly documented.

5.5.6 Review system

For water supply system, engineering plans and cost estimates maybe prepared by the municipal engineering office or by hired service provider. The DAC and the regional technical staff must review the technical outputs especially the hydraulic analysis. The plans, cost estimates must conform to project requirements and related engineering practices. Request for fund release will not be process at the national level unless the acceptable plans and appropriate analysis were properly reviewed at the field level.

5.5.7 Implementation stage

Similar to the discussion in the road section, implementation strategies for water supply may vary depending on the type of the system and water level design, i.e., level I and level II. Construction method has to be discussed during the pre-construction conference including the schedule of labor work force. Timing and delivery of required construction materials must be considered in the work schedules.

It is equally important to discuss with the community members the type of works which are significant and less numbers of labor force required. This approach will reduce the common problem encountered before. Most of the community members wanted to work for the whole duration of the construction to augment their income. At some point, this creates divergence among BSPMC volunteers and community members who are interested to do construction works.

Engineering plans must be made available at the sub-project office at all times for easy reference during construction and inspection of the works in-placed.

For underground supply of water, ensure first the development of well before constructing the structures such as reservoir and tapstands.

Before pouring of concrete mix, make sure that inspection of the steel reinforcing works is properly done and ascertain that form works, scaffoldings, braces are a line based on the approved technical plans. Pipe fittings and control valves required for the structure must also be inspected prior to the pouring of concrete.

No concrete works will be executed without the presence and supervision of an engineer especially on critical structures such as intake box and reservoirs.

Laying of pipes must follow the proper engineering practices. Depending on the type of materials use for water pipe, sand bedding, proper inspection of joint connections must be supervised by a technical person before the backfilling works.

5.5.8 Post Implementation stage

There are several operation and maintenance arrangements established at the community level. The most common for water supply sub-project is the Barangay Waterworks and Sanitation Association or BaWaSA. This is a formal organization which manages the operation of completed water system. Set of officers are elected by member consumers and they crafted operational policies and set of By-Laws which are presented to the General Assembly for approval. Other form of O&M arrangement is the Barangay Council taking full responsibility of the day to day operation of the system. Institutional and financial supports are provided by the Council for the maintenance of the completed system. It is expected that the agreed tariff collections will be sufficient to finance repair works and replacement of worn-out materials in the long run.

VI. Social Infrastructure Buildings

"Imagination is more important than knowledge."
Albert Einstein

The need to improve the social services at the rural areas is one of the government's objectives. School buildings and health facilities are the primary infrastructure to address the quality of education and improving the health condition at the community level. Other vertical structures that cater the need of the communities such as training centers for capability building activities are also essential for their livelihood activities.

The KALAHI-CIDSS Project provides these facilities depending on the need of the communities. This could be an improvement and repairs, expansion and construction of new buildings.

During the social investigations stage, it is expected that the ACT staff have conducted data gathering (both primary and secondary), and an in-depth analysis made to support the identified needs along social services.

6.1 Selection of Appropriate Design and Technology Application

6.1.1 DayCareCenter

Republic Act 6972, an Act known as the "Barangay-Level Total Development of Children Act", mandates establishing a Day Care Center in every Barangay. The Day Care facility and its services are intended to be availed by children up to six years of age, with parental consent. Section 5 of the Act directs the Department of Social Welfare and Development to formulate the criteria for the selection, qualifications, trainings and accreditation of day care workers and the standards for the implementation of the total development and protection of the children program. Hence, Administrative Order No 29, series of 2004 was issued by the department for the establishment of standards for day care center, other ECCD centers and service providers.

The Standards Bureau of the department has a set design which the project has adopted. The standard floor area is 6.0 by 8.0 meters, which is enough to accommodate the standard indoor environment of 1 child: 1 sq. meter. An elevated flat form, toilets, and wash basin are part of the design. Engineering plans for day care centers are attached in the Annex of this manual.

Minimum amenities such as shelves, table and chairs, both for the children and day care workers are provided also by the project. These are the "must" for the day care center to be accredited as level 1 or One Star.

If the barangay is located in a very far flung area, where the hauling of the construction materials such as cement, sand and gravel will be a big problem during implementation, the project allows a revision of the materials specifications, so that locally available materials in the barangay or municipality can be used. However, the floor area and other standards set in A.O 29 must still be observed.

6.1.2 SchoolBuilding

The 1987 Philippine Constitution under Article XIV provides a clear mandate on the obligation of the state to protect and promote the right of all citizens to quality education at all levels, and shall take appropriate steps to make such education accessible to all. Section 2 of same article discloses that "the State shall establish and maintain a system of free public education in the elementary and high school levels. Without limiting the rights of parents to rear their children, elementary education is compulsory for children of school age."

Following this mandate, the project, which primarily caters the need of the rural areas, is eligible to implement and fund the construction and/or rehabilitation of school buildings in elementary and high school levels.

Since the Department of Education has already established their engineering designs for school buildings, the project also adopted the same plans. The floor area for a single classroom is 7.0 by 9.0 meters (63.00 sq. m). Depending on the needs of the community, the project allows the construction and /or rehabilitation of several classrooms in one school building. Most of these buildings are one-storey design.

The proposed school building must be located and constructed in an existing school campus. The School Principal or District Supervisor must issue a certification allowing the project to construct or rehabilitate a school building in their school campus. For classrooms to be constructed in a community where there is no existing school campus, an acquisition document for the proposed site must conform to the project's policies on social and environmental safeguards. Engineering plans for school buildings are attached in the Annex of this manual.

6.1.3 Barangay Health Station

The State shall adopt an integrated and comprehensive approach to health development which shall endeavor to make essential goods, health and other social services available to all the people at affordable cost.[26] Health stations provide medical services at the barangay level through medcial consultation, delivery of pregnant women, immunization, and first aid to injuries for some emergency cases.

[26] Article XIII of the 1987 Constitution

The Department of Health has specific designs for their health facilities, i.e., rural health unit, barangay health station. The KC project, has adopted the latter considering that it operates at the barangay level.

The structure has an area of 6.0 by 6.4 meters which serve as treatment area, pre-natal/delivery room for pregnant women, consultation area and toilet facility. Additional waiting area coupled with ramp for the persons with disabilities form part of the total design. The total 51.00 sq. meters comprises the whole structure. Engineering plans for health stations are attached in the Annex of this manual.

6.1.4 Other Building Structures

With the implementation of the KC project, other vertical structures may be funded as long it does not fall on the negative list (non-eligible proposals). In the past, communities have proposed the construction of training facilities. This enables them to synergize some of their livelihood activities to augment their income. However, the context of providing training building must be based on the current situation on the locality if it warrants constructing such facility.

Depending on the intended usage of the proposed structures, the project allows the building of reinforced concrete buildings or semi-concrete (mixed with hard wood materials). The floor area will range from 70 square meters to maximum of 80 square meters.

The structures if possible should also comply with the Batas PambansaBilang 344, Accessibility Law by providing ramp, railings and the like.

6.1.5 Amenities

The project ensures the functionality of these social infrastructures by providing limited minimum amenities such as[27]:

i) For Health Station - table and chairs for the Midwife and patients; inexpensive pre-natal table and weighing scales for infants and adults.

ii) For SchoolBuilding – table and desks or arm chair for the students and teacher, writing board.

[27]June 1, 2006 RIE Conference Agreements

iii) For DayCareCenter – tables and chairs both for toddlers and day care worker, shelves, storage racks and writing board.

Other amenities that the community may want to provide can be procured once the project is handed-over to the BLGU and to the O&M group. These will be charged to their LCC and not to the proposed estimated cost. This is one way for the project to establish the cost parameter per sub-project type.

6.1.6 Design Restrictions

While KC supports constructing these social infrastructure, the need to ensure the sustainability and continued functionality of the services must be envisioned. The following must be observed during the planning stage and prior to the approval of the proposals:

i) Building sites shall not be located in low-lying areas susceptible to flooding. Similarly, no structures will be constructed on areas prone to landslides.
ii) The proposed site has to be far from the river or other bodies of water to ensure the safety of the barangay populace.
iii) For communities located in typhoon prone areas, a re-design of the roofing using concrete slab is allowed.
iv) The proposed site must be treated with anti-termites. This cost must be incorporated in the estimates and program.
v) Ensure that O&M arrangement, including personnel/staff, are clearly established before the sub-project approval, i.e., teachers for school buildings, health workers for BHS and day care workers for the center.
vi) The structural design must conform to the national building codes.

6.2 Preparation of detailed engineering requirements

Since most of the common social infrastructures have adopted designs and standards from the concerned agencies, the engineering plans and the materials quantity computations for these sub-projects types have already been prepared. The community will reproduce the engineering plans and prepare the cost estimates by providing the prevailing unit market price for each of the construction materials. The indirect cost will follow the same table discussed in the road access section. The program of works will also follow the same project template. Electronic copies of the standard plans can be provided by the regional field office through the engineering unit.

The Deputy Area Coordinator will closely coordinate with the municipal engineering office for the review of the community proposal, particularly the cost estimates. In case the total estimated cost exceeds that of the regional and national cost parameter, justification has to be prepared citing the reasons for the estimates. The option to consider an alternative design is given to the field and regional engineers. The geographical location and availability of indigenous materials is assumed to have been considered in the finalization of the design.

6.3 Technical specifications for the proposed work items

Similarly, the technical specifications for constructing buildings were already prepared by the project following the national building code. The proponent barangay will ask a copy of these specifications from their Deputy Area Coordinator and subsequently

attach it to their technical proposal. The specifications will guide the Procurement Team in preparing their procurement plan and quotations.

6.4 Implementation stage

Like other sub-project types, the implementation stage for building construction starts with the pre-construction conference. Volunteers, workers and technical staffs will discuss the construction activities, implementation schedule coupled with the corresponding manpower requirement, quality control measures, reporting system, environmental management and safety measures. It is expected from the technical staff that the construction method to be adopted for erecting the building will be clearly discussed to everyone who will actively participate.

Depending on the sub-project sites and the weather condition, options of constructions methods should be explored in order to meet the work schedules.

The need to explain the construction forms required by the project such as the construction logbook, the weather chart, procurement monitoring is also expected and agreed by the community members.

It is also important for the BSPMC to agree on the schedule of construction meeting in order to discuss the progress of the construction and possibly resolve issue that may arise. The meeting can be held on the designate BSPMC office.

VII. PROJECT SAFEGUARDS POLICIES

Environmental and Social Safeguard - Solutions are not without risks. Almost all infrastructure investments can adversely affect natural ecosystems and limit the intended impact of the project in the long run. Other projects can produce effects that are unintended and unforeseen during project design. Understanding how specific projects will impact specific social groups, or the larger ecosystem, is a critical input in project selection.[28]

For the environmental aspect, to address the potential negative impact of the sub-project, it is important during the planning stage to identify what these are and prepare possible mitigating measures. These can be done with the conduct of site inspection and filling-up the Safeguard Checklist as inputs for preparing the Environmental Management Plan (EMP) as presented in Annex __. In preparing the EMP, the Facilitator must engage the community members in the preparation of mitigating measures for the potential negative impacts of the proposed sub-project. In this way, the community carn carry out the identified mitigating measuresduring implementation period. Since the community members are more knowledgeable of their local condition, they can logically identify the potential impacts of the construction activities once properly guided by the technical people. Samples questions during the facilitation for the preparation of EMP is shown in Box ___.

Box __ Guide questions in facilitating the EMP preparation for a water supply system:

1. What do you think will happen on the water source during the excavation works if not properly supervised?
2. Is there a way for us to determine if the water source is potable and free from undetected contaminants? Who will do this?
3. On the proposed site for structures, are there cultural properties that can be damaged? How can we elude on this?
4. Is the location of the tapstand agreed by users and will not create divisiveness among community members?

Since the project is implemented for three years in a municipality, the over-all impact of the project investment has to be assessed, especially on the last cycle of implementation. As mentioned earlier, disaster risk reduction strategies have to be adopted. From a different point of view, there is also a need to examine the effects of the environment to the proposed sub-project, and not only the impact of the sub-project to the environment. This is often overlooked and is a new approach of the project which can be discussed during the planning consultation.

The environmental safeguard system of the project starts from site verification, implementation, to monitoring and audit. Documentary requirements, as provided for by law, must be observed at the community level. The latest sub-project groupings made by the Department of Environment and Natural Resources can be used as a guide for determining whether the proposed sub-project is categorized as Covered or Non-covered under the Presidential Decree 1586. The flow of activities are illustrated on Figures 1 and 2.

Part of the Social Safeguard on involuntary resettlement aspect is ensuring that

[28] CEAC Field Guide, Project Development Planning

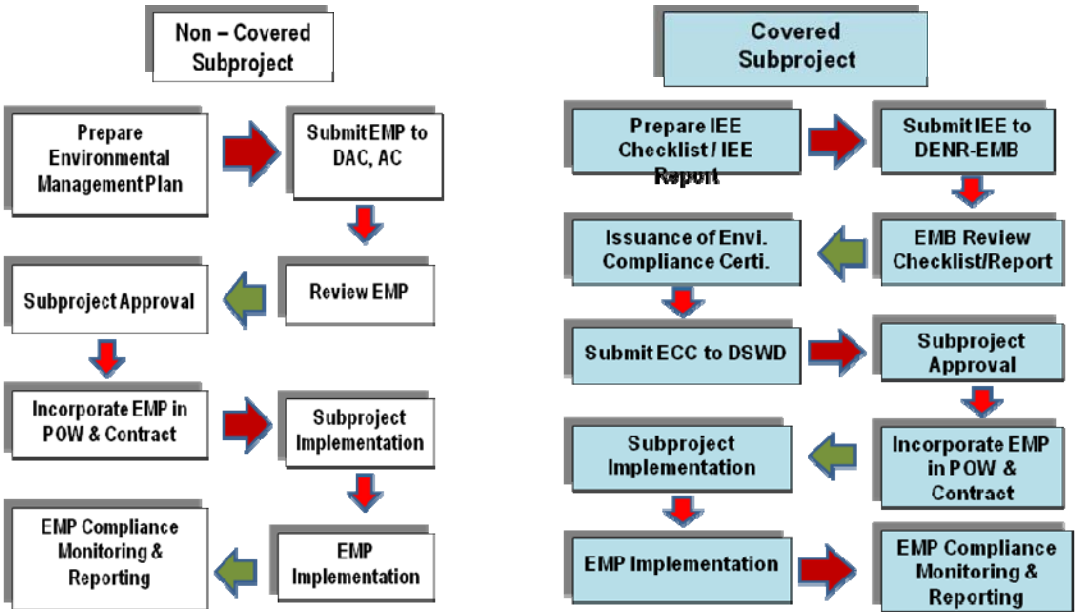
compensation and negotiations are properly conducted for acquiring properties to be used by the sub-project. Particularly important for road project is the Right-of-Way for new construction or certification from MLGU through the office of Municipal Assessor or Engineer that the road section already exists and will require rehabilitation and/or improvement. Likewise, other sub-project types are required to secure acquisition document to support proof of ownership. As experienced, there are project sites that are located in government owned land, i.e., school buildings, barangay health station, day care centers, that require certification and resolution from the school principal and barangay or municipal council to authorize the construction and usage of the property respectively. For proposed sub-projects located in public land, certification from DENR is required for the purpose. Other types of sub-project will ensure appropriate acquisition document as the case maybe.

Cultural sites within the Indigenous Peoples (IP) areas must be respected and must be avoided along the proposed road traverse as much as possible. Close coordination with the local and regional offices of National Commission on Indigenous Peoples (NCIP) is expected.The process of selection and identification of community project has to be with close coordination with the local NCIP offices. Likewise, the design of the sub-projects must be concurred by the IP members.

It is expected that labor force will include women group during sub-project construction. The project requires that compensation during the implementation must be equal to that of the prevailing labor rate received by the men. Hiring of children ages 16 and below as labor force is also prohibited by the project.

The project also designed a system for ensuring safeguard policies are put into practice at the community level. An Environmental and Social Safeguard Audit is conducted for every cycle. Statistical samples of at least ten percent of the regional coverage are visited. . It is spearheaded by the regional and national technical staffs who conduct ocular inspection, documents review and dialogue with selected community volunteers and barangay officials. The activity will provide feedback both to community and project management on other possible action that will ensure social and environmental policies are put in-placed..

Figures 1 & 2.Activity Flow for Covered and Non-Covered Sub-projects.



VIII. RISK MANAGEMENT

Risk is an event that the Project should consider during the planning process. Likewise, monitoring the corresponding responses and mitigations during the implementation period is regarded as good management practice. The Risk Assessment activity initiated by the Project confirmed some of the observations made during the Risk Profiling[29] undertaken by the Millennium Challenge Corporation.

Risk assessment is an enhancement of the project that is to be observed during the identification and planning stage for community projects. This activity will address and minimize the certain non-functionality of community projects during the Functionality Audit for future investments.

Risk Assessment shall be performed after the communityhas concluded their Participatory Situational Activity (PSA)a,where potential solutions/investments have been identified that will respond to their needs. Once these investments are prioritized, the proposed community projects should be subjected to risk assessment. Certain basic assumptions, including the expected sub-project deliverables must be laid out to guide the community on possible impacts and the likelihood of the risks to occur. Based on the results of the previous Risk Profiling by MCC, a Risk Register was developed and adopted by the Project with inputs from the study conducted. The Risk Register covers the areas of social preparation and technical aspects of implementing community projects.

To guide the community leaders and members to carry out the risk assessment, a template (Annex __) was developed by the Project that will facilitate the said activity. The proposed priority sub-project will then be presented by the community volunteers and the technical staff of the project and/or the municipality will assist them in the facilitation using the template as guide. The facilitation of the risk assessment has to consider the information collected during the social investigation and environmental scanning. The aspects of disaster risk and climate change adaptation have to be incorporated on the risk assessment both for potential risks and recommended mitigating measures.

It is important to communicate to the community members their corresponding responsibility in the identified proposed sub-project. They are the end-users and must need to know the potential risks and the mitigating measures to minimize or eliminate the risks. It is also equally important to share with them the consequences and impact of their decision and/or actions. The risks responses could either be in a form of: risk transfer; accept and mitigate; or simply just avoid the risk.

The results of the risk assessment should be considered in the preparation of the technical design of the proposed sub-project. The agreed mitigating measures must also be monitored and managed, including other residual risks that may occur during the implementation.

A sample guide questions to facilitate the assessment for any type of sub-project:
Is the site located on a flood prone area?
Who is/are the owner of the site? How can we acquire the site?
What are the risks in the delivery of construction materials?
What are the possibilities that the intended benefits will not be sustained? What could be the causes?

[29] Contracted out by Millennium Challenge Corporation to Resolute Construction Management, Dec 2010-May 2011

The Risk Register [30]developed for the Project will be installed on the project computers (both at the regional and national level) and the Risk Register software will generate the risks identified during the risk profiling. The risk register will be shared to each municipality at the start of the municipal engagement with the Project. The project staff, together with their counterparts, based on their initial social investigation and environmental scanning activities will identify which risks are possible on their area of coverage. The risk register at the municipal level will be submitted back to the regional office for consolidation and monitoring purposes. With this in place, providing technical assistance to municipalities will be more focused since data can be mined from the risk register.

IX. CONSTRUCTION SAFETY MEASURES

Community sub-projects are implemented either by force account or by contract mode. Under force account, the municipal engineering office will assist the community through construction supervision. The Deputy Area Coordinator (DAC) may also supervise the subproject construction depending on the number of prioritized sub-projects in the municipality. The community is also given the option to hire Service Provider who will assist them in the supervision works. For sub-projects undertaken by contract, the Contractor must designate his/her resident Project Engineer who will closely coordinate with the DAC and the municipal engineering office on the contracted work activities. This will include the environmental measures, safety measures and occupational health standards at the project site. Although community sub-projects are small scale infrastructure, the Project strictly observes measures to prevent accidents, diseases and other harmful effects on the health of the workers during the construction period.

Basic precautionary Safety Measures on construction sites, but not limited to:

- Conduct a hazard assessment upon arrival at the construction site.
- Suitable housekeeping plan must be established and implemented at the construction site, i.e., proper storage area for materials, maintaining cleanliness at the project site during and after the day of work.
- Ensure that you park the vehicles in an area that minimizes the need to back up.
- Wear appropriate personal protective equipment consistent with the hazard prevention, i.e., those with good visibility, reduces noise, protects from dust.
- Scaffoldings must be properly designed, constructed and maintained so as to prevent collapse or accidental displacement.
- Avoid walking and working under suspended loads. Hard hats must be worn when working in proximity to backhoes, cranes, excavators, etc.
- Take note of changing conditions in the area where you are working and adjust your work as necessary.
- Employees working in areas where there is a possible danger of head injury from impact, falling or flying objects, or from electrical shock and burns, shall wear protective helmets at all times. Warning signs have to be placed in these areas.

The Engineer must instruct the Project Implementation Team (PIT) Head to observe the safety measures and report any accident that may occur at the project site.

[30] A management tool to identify and monitor the risk using a computer software (i.e. Method 123 Project Management Methodology, MPMM)

Part of the project enhancements is the provision of minimum Personnel Protective Equipment (PPE)[31] to sub-proposals. The budget is incorporated on the indirect cost under the Hand Tools and PPE line item. The following protective equipment will be provided:

Hand glove; Hard hats; rubber boots; safety belts (for above ground work items)

X. SUB-PROJECT SIGNAGE AND MARKERS

10.1 Signboard

To promote the project's accountability mechanism through the social marketing strategy, a standard design of sub-project billboards will be adopted at the community level. The sub-project signboard must be installed in a conspicuous place near the project site to inform the public that the KALAHI-CIDSS community project is about to start its construction works. Information relative to the sub-project's physical target, cost, duration of construction as well as the physical and financial status has to be updated on a regular basis. The signboard will remain even after the sub-projects' completion.

FRONT ELEVATION

The signboard is designed to last for several years. The materials needed are:

a. 2" diameter G.I. pipes Sch. 20
b. Gauge __ Plain G.I. Sheet
c. Enamel paints (White, Red, Black)
d. Paint brush
e. Neutralizer

10.2 Sub-project Markings

To immediately recognize the sub-projects built under the KALAHI-CIDSS Project, it was agreed that standard markings will be observed including, among others, the color of paints to be adopted.

For all vertical structures, KALAHI-CIDSS:KKB marking must be painted on the roofing of the buildings. Since the color of the roof is dark green, the markings will be in white.

10.3 Project Marker

For sub-projects with significant investment cost, i.e., bridges, water supply systems, a bronze marker may be installed at the discretion of the community.

10.4 O&M Policies

[31] Subic RCIS Planning Workshop Agreements

Ideally, O&M policies and barangay ordinances approved by the community and the council should be posted on strategic places (within the vicinity of the completed sub-project) to remind the und-users of their obligations and responsibilities towards sustaining the services and benefits of the sub-project.

XI. LIST OF ANNEXES:

Technical Forms

1. Site Validation Report
2. Inventory of Municipal Resources
3. Technical Assistance Fund Eligibility Checklist
4. Bar bending and volume computation matrix
5. Capability outputs for Manpower and Equipment
6. Program of Works
7. Sub-project Concept Form
8. Project proposal Format
9. Technical review checklist (QA/QC)
10. Construction Logbook
11. Sub-project Physical Accomplishment Report
12. Change / Extra Work Order
13. Suspension and Resume Orders
14. Time Suspension Report
15. Weather Chart
16. Joint Inspection Report
17. Final Inspection Report
18. Sub-project Completion Report
19. Mutual Partnership Agreement
20. Deed of Donation (Sample Form)
21. DENR Project Grouping Matrix
22. Environmental Management Plan
23. Environmental Management Monitoring Report
24. Environmental& Social Safeguard Audit

XII. ENGINEERING PLANS

1. DayCareCenter
2. BarangayHealthCenter
3. SchoolBuilding (1-CL, 2-CL)
4. Reinforced Concrete Box Culverts
5. Reinforced Concrete Pipe Culverts
6. Barangay Road Cross sections
7. Cross sections of drainage
8. Water Tapstand

XIII. FACILITATOR's GUIDES

1. DAC's Facilitator's Guide Planning Stage
2. ACT Training Module Social Preparation
3. ACT Training Module SPI Technical
4. Facilitators Guide for Community Procurement Training

SP SocPrep Form 1-Inventory

TECHNICAL RESOURCES IN THE MUNICIPALITY

Name of Municipality: _____
Province : _____
Region: _____
Municipal Class: _____

A. Heavy Equipment

Type	Current Condition	Current Capability per Hour	Fuel & POL Product Consumption	Prevailing Rental Rates

B. Manpower

Name	Position	Employment Status

C. Labor Force (Barangay)

Name	Position	Employment Status

Prepared by:

_____
MCT-DAC

Concurred:

_____
Municipal Engineer

SP SocPrep Form 1.1 Inventory

MATRIX OF AVAILABLE SERVICE PROVIDERS[32]

Name	Address	Field of Expertise

MATRIX OF LEGITIMATE CONTRACTORS

Name of Construction Firm	Postal Address	Category	Classification

MATRIX OF LEGITIMATE SUPPLIERS

Name of Establishment	Postal Address	Category[33]

MATRIX OF NON-REGISTERED SUPPLIERS

Name of Supplier	Postal Address	Category

Prepared by: **Noted:**

MCT-DAC and/or ACT-DAC Regional Community Infrastructure Specialist and/or DRCIS

[32] One that can provide technical assistance such as survey works, engineering design and plan preparations, laboratory test results

[33] Whether hardware store, electrical store, lumberyard, sand & gravel supplier, etc

SP SocPrepForm 1.2 Inventory

MUNICIPAL INVENTORY OF EXISTING INFRA & SOCIAL INFRASTRUCTURES[34]

Municipality : _____ Classification: _____
No. of Barangays: _____
Province : _____ Region: _____

A. Rural Access:

i. Municipal Roads: Paved = _____ kms.
Gravel = _____ kms.

ii. Barangay Roads: Paved = _____ kms.
Gravel = _____ kms.

iii. Bridges: Concrete = _____ ln.m
Bailey = _____ ln.m
Suspension = _____ ln.m

iv. Other Structures: _____

B. Social Infrastructures:

i. Rural Health Unit: ____ barangay
ii. Barangay Health Station: ____ barangays
iii. DayCareCenter: ____ barangays
iv. School Buildings: High School = _____ Barangays
No. of Classrooms = _____
Elementary = _____ Barangays
No. of Classrooms = _____
v. Potable Water Supply: Level I = _____ Barangays
Level II = _____ Barangays
Level III = _____ Barangays
vi. Others: (Brgy, Hall) _____ barangays

C. Agricultural & Trade Facilities:

i. Post harvest facilities (Warehouse/Storage): _____ barangays

ii. TrainingCenter: _____ barangays

iii. Markets/ TradingCenter:_____ barangays

iv. Raw materials: _____

Prepared by: **Validated by:**

_____ _____
MCT-DAC ACT-DAC

[34] All barangays must have the same inventory

SP SocPrep Form 2-Road

SITE VALIDATION REPORT
(For Rural Access Component)

Date of Field visit: _____ Brgy: _____ Mun: _____

Name of Proposed sub-project: _____
Location: Station Limits (SitioSitio or Brgy): _____
Name of contact person (PPT/BRT member): _____
No. of present population of the target area: _____ Male: _____ Female: _____
Total No. of Households: _____ Ave. No./HH: _____ *(For joint barangay proposal, total for the participating barangays)*

1. Current status of proposed road section: (*Please Mark*)
____ trail; ____ earth/dirth road; ____ potholes present; _____ canal w/in the roadway
____ existing canal silted; ____ loose surface materials; _____ some sections are cemented

2. Estimated length of the proposed road: _____ (in kilometers); indicate the following references or benchmarks @ Point (start or sta. 0+000) _____ (end of sta. ___)
_____

3. Existing road network for which the proposed road will connect:
_____ provincial road; _____ barangay road; _____ NIA access road; _____ private road

4. Types of vehicles currently passing the proposed road:
_____ none; _____ motorcycles/Tri-cycles; _____ Four-wheel; _____ 6-wheelers truck; Others

5. Frequency count of vehicles currently passing the proposed road per day:
___ times for motorcycles/Tri-cycles; ___ times for Four-wheel; ___times for 6-wheeled &Others

6. Existing cost of fare from the area to the municipal proper:
_____ per person; _____ per sack of farm product

7. Existing farm products within the influence area of the proposed road: (ex. Palay, vegetable)
_____

8. Topography of the proposed area (route):
_____ flat terrain; _____ flat to rolling; _____ rolling to hilly; _____ mountainous

9. Will the proposed road requires major excavation? ____ Yes (estimated vol.) ___ cu.m; ___ No

10. Will the road requires significant volume of filling/embankment? ___ yes ___ no

11. Any potential environmental disaster risks noted on the proposed site: _____
_____

12. Availability of filling/embankment at the area (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kilometers

13. Availability of surface materials at the area (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kilometers

14. Availability of culverts and cement materials at the area (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kilometers
15. Availability of heavy equipment at the area/locality: ____ yes ____ no
_____ LGU owned: _____ privately owned (contractors)

16. Availability of labor force at the area: _____ skilled (identify) _____ ; _____unskilled

17. Current cost of labor at the area: skilled: _____/day; unskilled: _____/day

Other observations: _____

Recommendation: This will be filled by technical staff of the validating team (Service Provider, RCIS, DAC, or M&E)

On this section, range of options for technical design must be presented to the community. Appropriate technology will be finalized and confirmed once the information are analyze.

Attach Photos of the proposed site.

Prepared by:

_____

SP SocPrep Form 2-Bridge

SITE VALIDATION REPORT
(For Rural Access component-Bridges/Spillway/Culverts)

Date of Field visit: _____ Brgy: _____ Mun: _____

Name of Proposed sub-project: _____
Location: Station Limits (Sitio/Brgy): _____
Name of contact person (PPT/BRT member): _____
No. of present population of the target area: _____ Male: _____ Female: _____
Total No. of Households: _____ Ave. No./HH: _____ *(For joint barangay proposal, total for the participating barangays)*

1. Existing status of the proposed road leading to the bridge site: (*Please Mark*)
_____ trail; _____ earth/dirth road; _____ potholes present; _____ canal w/in the road way
_____ existing canal silted; _____ loose surface materials; _____ some sections are cemented

2. Estimated width of the water body for which the structure will be constructed: _____ (Ln.m)

3. Type of water body for which the proposed structure will be constructed: ____River; ___ creek

4. From the strongest typhoon that hit the area, what was the maximum flood level? _____ m.

5. Existing type of soil at the area: _____ Clay; _____ Sandy; _____ Rocky

6. Is there any existing bridge or similar structures within the area/locality? _____ yes _____ no

7. Quarrying within the area (200 meters radius from the proposed bridge site) ____ yes ____ no

8. Any potential environmental disaster risks noted on the proposed site: _____
_____
9. Other barangay that would benefit the proposed structures: _____

10. Available indigenous materials at the area that can be used for the proposed structures: List of materials;
_____
11. Availability of filling/embankment materials at the area: (distance) _____ within the proposed area;
_____ 5-10 kms from the area; _____ more than 10 kms

12. Availability of sand and gravel at the area: (distance) _____ within the proposed area; _____
5-10 kms from the area; _____ more than 10 kms

13. Availability of culverts, cement and other construction materials in the area: (distance) _____
within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kms

14. Availability of heavy equipment at the area/locality: ____ yes ____ no ____ LGU owned; ____
privately owned (contractors)

15. Existing means of transportation servicing in the community:
____ none; ____ motorcycle/tri-cycle; _____ jeep; _____ 6–wheeler truck; _____ other (Specify)

16. Existing cost of fare from the area to the municipal proper: _____ per person; _____ per sack of farm product

17. Existing farm products within the influence area: (ex. Palay, Vegetable) _____

18. Availability of labor force at the area: _____ skilled (identify) _____; unskilled

19. Current cost of labor at the area: skilled: _____ /day; unskilled: _____/day

Other observations: _____

Recommendation: This will be filled by technical staff of the validating team (Service Provider, RCIS, DAC, or M&E)

On this section, range of options for technical design must be presented to the community. Appropriate technology will be finalized and confirmed once the information are analyze.

Attach Photos of the proposed site.

Prepared by:

_____

SP SocPrep Form 2-Bldg

SITE VALIDATION REPORT
(For Buildings)

Date of Field visit: _____ Brgy: _____ Mun: _____

Name of Proposed sub-project: _____
Location: Station Limits (Sitio): _____
Name of contact person (PPT/BRT member): _____
No. of present population of the target area: _____ Male: _____ Female: _____
Total No. of Households: _____ Ave. No./HH: _____ *(For joint barangay proposal, total for the participating barangays)*
1. Existing status of the road leading to the proposed site: (*Please Mark*)
_____ trail; _____ all weather gravel road; _____ gravel road w/ some cemented portion
2. Distance of the area from the municipal proper: _____ (kilometers)
3. Means of transportation from the Poblacion to the proposed site: _____ none; _____ motorcycle/tri-cycle;
_____ jeep; _____ banca; _____ others (specify)

4. Ownership of the property for which the building will be constructed: _____ Barangay site;
_____School site; _____ LGU owned; _____ Privately owned; Titled Y_ N _

Terrain of the proposed sub-projects site:
_____ for clearing; _____ need filling/embankment; _____ for side cut excavation

5. Any potential environmental disaster risks noted on the proposed site: _____
_____

6. Name other barangay/s that will benefit from the sub-project: _____

7. Available indigenous materials at the area can be used for the proposed structures: List the materials;
_____

8. Availability of filling/embankment materials at the area: (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kms

9. Availability of sand and gravel at the area: (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kms

10. Availability of construction materials in the area: (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kms

11. Availability of concrete mixer and concrete vibrator at the area/locality: _____ yes _____ no
_____ LGU owned; _____ privately owned (contractors)

12. Availability of labor force at the area: _____ skilled (identify) _____unskilled

13. Current cost of labor at the area: skilled: _____/day; unskilled: _____/day

14. Who will provide the following software for the proposed sub-project? (Please specify)

a. For school building (Teacher, books) _____

b. For health station (Health Worker (BHW, Midwife), medicines) _____
c. For day care center (Day Care Worker, etc) _____

15. Any existing organization at the barangay: (please specify) _____

_____ active; _____ in-active

16. Willingness to organize group to handle the operation of the sub-project: _____ yes _____ no

Other observations: _____

Recommendation: This will be filled by technical staff of the validating team (Service Provider, RCIS, DAC, or M&E)

On this section, though standard designs in terms of floor are for usage are available, range of options for the technical design in terms of materials to be used will be finalized and confirmed once the information are analyze.

Attach Photos of the proposed site.

Prepared by:

_____

SP SocPrep Form 2-PHF

SITE VALIDATION REPORT
(Post Harvest Facilities)

Date of Field visit: _____ Brgy: _____ Mun: _____

Name of Proposed sub-project: _____
Location: Station Limits (Sitio): _____
Name of contact person (PPT/BRT member): _____
No. of present population of the target area: _____ Male: _____ Female: _____
Total No. of Households: _____ Ave. No./HH: _____ *(For joint barangay proposal, total for the participating barangays)*

1. Existing status of the road leading to the proposed site: (Please Mark)
_____ trail; _____ all weather gravel road; _____ gravel road w/ some cemented portion

2. Distance of the area from the municipal proper: _____ (kilometers)

3. Means of transportation from the Poblacion to the proposed site:
motorcycle/tri-cycle; _____ jeep; _____ banca; _____ others (specify)

4. Ownership of the property for which the building will be constructed: _____ Barangay site;
_____School site; _____ LGU owned; _____ Privately owned; Titled Y_ N _

5. Terrain of the proposed sub-project site:
_____ for clearing; _____ need filling/embankment; _____ for side cut excavation
6. Any potential environmental disaster risks noted on the proposed site: _____
_____

7. Name other barangay/s that will benefit from the sub-project: _____

8. Any existing similar facilities within the area or locality: ____ yes (distance) ____ (km); ____ no

9. Availability of construction materials in the area: (distance)
_____ within the proposed area; _____ 5-10 kms from the area; _____ more than 10 kms

10. Availability of equipment/machinery needed for the sub-project? _____ yes; _____ no
_____ within the municipality; _____ outside the municipality (specify place) _____

11. Availability of labor force at the area: _____ skilled (identify) _____; _____ unskilled

12. Current cost of labor at the area: skilled: _____ /day; unskilled: _____/day

13. Availability of technician/mechanic for the equipment/machinery? _____ yes _____ no
_____ within the municipality; _____ outside the municipality (specify place) _____

14. Availability of technical staff similar with the operation of the proposed sub-project: _____ yes;
(indicate name); _____; _____ none

15. Any existing organization at the barangay: (please specify) _____
_____ active; _____in-active

16. Training/s needed relative to the implementation of the proposed sub-project: _____
_____

17. Willingness to organize group to handle the operation of the sub-project: _____ yes _____ no

18. Willingness of the community member to contribute/pay for the services provided by the sub-project: _____ willing to pay;
_____ not willing to pay

19. How much do they think they can initially afford? _____

Other observations: _____

Recommendation: This will be filled by technical staff of the validating team (Service Provider, RCIS, DAC, or M&E)

On this section, though standard designs in terms of floor are for usage are available, range of options for the technical design in terms of materials to be used will be finalized and confirmed once the information are analyze.

Attach Photos of the proposed site.

Prepared by:

_____

SP SocPrep Form 2-Irrigation

SITE VALIDATION REPORT

(For Irrigation Component)

Date of Field visit: _____ Brgy: _____ Mun: _____

Name of Proposed sub-project: _____
Location: Station Limits (Sitio): _____
Name of contact person (PPT/BRT member): _____
No. of present population of the target area: _____ Male: _____ Female: _____
Total No. of Households: _____ Ave. No./HH: _____ *(For joint barangay proposal, total for the participating barangays)*

1. Existing status of the road leading to the proposed site: (Please Mark)
_____ trail; _____ all weather gravel road; _____ gravel road w/ some cemented portion

2. Distance of the area from the municipal proper: _____ (kilometers)

3. Means of transportation from the Poblacion to the proposed site:
_____ none; _____ motorcycle/tri-cycle; _____ jeep; _____ banca; _____ others (specify)

4. Category of the proposed sub-project: _____ new/expansion of irrigation system _____ rehabilitation/improvement

For the New System

5. Estimated irrigable area to be covered by the proposal: _____ hectares

6. Name and location of water source: _____

7. Estimated discharge of water source: _____

8. Distance of the water source to the target area: _____ (kilometers)

9. Existing crops planted within the target area: _____

10. Any potential environmental disaster risks noted on the proposed site: _____
_____

For Rehabilitation/Improvement

11. Name of existing system: _____

12. Area of coverage: _____ (has.) Date completed and operated by the IA: _____

13. Proposed scope of work covered by the proposal: _____
_____

14. Effective area covered by the proposed sub-project: _____ (hectares)

15. Number of farm lots affected by the improvement covered by the proposed sub-projects:
_____ farm lots; _____ covered areas

16. Status of existing Irrigation Association (IA): _____ Active _____ In-active
17. Name of Irrigation Association: _____

18. Status of operation and maintenance of the IA: _____
_____

19. Availability of labor force at the area: Skilled (identify) _____ ; _____ unskilled

20. Current cost of labor at the area: Skilled: _____/day; _____ unskilled:_____ /day

21. Any existing organization at the barangay aside from IA: (please specify) _____
_____

Other observations: _____

Recommendation: This will be filled by technical staff of the validating team (Service Provider, RCIS, DAC, or M&E)

On this section, range of options for technical design must be presented to the community. Appropriate technology will be finalized and confirmed once the information are analyze..

Attach Photos of the proposed site.

Prepared by:

_____

SP SocPrep Form 2-Water

SITE VALIDATION REPORT

(For Water Supply System)

Date of Field visit: _____ Brgy: _____ Mun: _____

Name of Proposed sub-project: _____
Location: Station Limits (Sitio): _____
Name of contact person (PPT/BRT member): _____
No. of present population of the target area: _____ Male: _____ Female: _____
Total No. of Households: _____ Ave. No./HH: _____ *(For joint barangay proposal, total for the participating barangays)*

No. of population affected by insufficiency supply of potable water: _____
Existing water system in the area: _____ Open Dug Well; ____ Hand Pumps; ____ Piped System

Source of existing water system: _____ Underground; _____ Spring; _____ Others; _____

Location of the existing water source: _____

Type of source of the proposed water system: _____

Name of the source: _____ Location: _____

Discharge (Q) of Flow rate: _____ lps. Elevation: _____ meters

Quality of water: _____

Geographical Coordinates: _____ Latitude; _____ Longitude

Reliability of source: perennial _____ intermittent _____ fluctuating _____

Geology (Type of soil/rock at the source): _____

Vegetation cover of the source: _____

Accessibility of the source: road _____ trail _____ none _____

Distance of proposed water source to the target area: _____

Distance of the water source to the nearest road access: _____

Presence of power supply in the area: _____ Distance of the nearest electric post: _____

Ownership of the source: __ LGU owned; ___ PublicLand; ___ Privately owned; Titled Y__ N __

Name of Owner: _____

Any potential environmental disaster risks noted on the proposed site: _____
_____

Available construction materials in the area: _____

Name of existing association in the area: _____

Status of the association: No. of active members _____ in-active _____

Other observations: _____
Recommendation: This will be filled by technical staff of the validating team (Service Provider, RCIS, DAC, or M&E)

On this section, range of options for technical design must be presented to the community. Appropriate technology will be finalized and confirmed once the information are analyze.

Attach Photos of the proposed site.

Prepared by:

_____

SP SocPrep Form 3

(Technical Assistance Eligibility Checklist)

Barangay : _____

Municipality : _____

Province : _____

Please Check Appropriate Box

	Yes	No
1. Is there a resolution passed by the Barangay Assembly for the availment of TAF?		
2. Does the project fail under technically specialized sub-projects as indicated in items 3.2 and the amended Certain Provisions of the Item 4.1 of the Joint Operations Finance Manual # 6?		
3. Is the expertise not available in the community or the cluster of communities?		
4. Is the technical assistance beyond the capacity of the existing project and Municipal staff?		
5. Is there already an organized Project Preparation Team?		
6. Is the lead Barangay already selected to manage the engagement of Service Provider/s?		
7. Is the cluster communities willing to open a current account and provide initial deposit of Php 1,000.00 as Local Community Contribution?		

MEMORANDUM

FOR : The Regional Project Manager
KALAHI-CIDSS:KKB Project

FROM : (The Area Coordinating Team)

SUBJECT : Technical Assistance Fund for the Municipality of _____

In compliance with the provisions of KC:KKB amended joint Operations and Finance manual no. 6, we have reviewed/validated the identified projects of Barangay _____ to determine their eligibility to the 3% Technical Assistance Fund (TAF) and have found that on the basis of the above information of the abovementioned barangays are eligible to avail of said Technical Assistance Fund.

We certify that all information supplied herein are true and correct to the best of my knowledge.

Signed: _____
Area Coordinator

SP SocPrep Form 4

RISK ASSESSMENT FORM

Name of Proposed Sub-project:	
Location: Barangay	**Province of:**
Region: **Date:**	**Conducted by:**

MgaPeligro (Risk)	AnoPosiblengMangyari? (What could happen)	Antasngposibilidadnamangyari? (How likely to occur)	Lakasngepektokapagmangyari? (What is the impact)	Paraanparamapigilan o mabawasan? (Approach and tools to be used)	Posiblengresulta (Monitoring the result)	Dokumentang Pagkapatotoo (Proof of commitment)	Panahonnagagawin (Time Frame)	Responsablengtao/komitiba (Responsible)
Identification Stage:								
Planning Stage:								
Implementation Stage:								
Post-Implementation Stage:								

SP SocPrep Form 5

RURAL INFRASTRUCTURE COMPONENT

WORKSHEET FOR COMPUTING VOLUME OF CONCRETE

Name of sub-project: _____

Type of Structure * (a)	Part within the structure ** (b)	Dimension			Volume cu. m. [f = c x d x e]	No. of sides required (g)	Total Volume (cu. m.) *** [h = g x f]
		Width (meter) (c)	Length (meter) (d)	Thickness (meter) (e)			
TOTAL							

Note: ***** **= box culvert, bridge, intake box, reservoir**
****** **= top slab, bottom slab, walling, etc.**
******* **= basis of payment for Structural Concrete Pay Item**

Prepared by:

_____
Service Provider and/or ACT-DAC

Reviewed & Checked by:

_____
ACT- Deputy Area Coordinator

Noted by:

_____
Municipal Engineer

SP SocPrep Form 5.1

RURAL INFRASTRUCTURE COMPONENT

BAR BENDING SCHEDULE

Name of sub-project: _____

Part of Structure (a)	Bar Type (b)	Figure * (c)	Bar Size (d)	Bar Type Length (meter) (e)	Number of bars. Required (pcs) (f)	Total length (meter) [g = e x f]	Weight of Bar (kg./mtr.) ** (h)	Total Weight (kgs.) *** [I = g x h]
TOTAL								

Note: *** = please draw the figure based from the plan**
**** = based from the result of material testing or from the table for standard weight per meter length**
***** = basis of payment for Reinforcing Steel pay item**

Prepared by:

_____
Service Provider and/or ACT-DAC

Reviewed & Checked by:

_____
ACT- Deputy Area Coordinator

Noted by:

_____
Municipal Engineer

SP SocPrep Form 6

DEED OF DONATION

KNOW ALL MEN BY THESE PRESENTS:

That I, _____of legal age, single / married to_____ with postal address at _____ hereinafter referred to as the DONOR, and _____, likewise of legal age, single / married to _____ with postal address at _____ hereinafter called the DONEE, witnesseth:

That the DONOR is the registered owner of a parcel of land, more particularly described as follows:
(Insert description of property to be donated)

That the DONEE is a cousin of the DONOR, who has lovingly dedicated five (5) years of his life as the latter's personal caregiver and companion;

That FOR AND IN CONSIDERATION of the DONEE'S trust, devotion and affection shown to the DONOR, and as an act of gratitude and liberality on his part, the DONOR hereby voluntarily GIVES, TRANSFERS, and CONVEYS by way of donation, unto the said DONEE, his heirs and assigns, the above described property, together with all the improvements found thereon, free from all liens and encumbrances;

That the DONOR affirms that this donation is not made with intent to deceive his creditors, and that he has reserved for himself sufficient funds and property;

That the DONEE hereby accepts and receives this donation made in his favor by the DONOR, and hereby manifests his gratefulness for the latter's generosity.

IN WITNESS WHEREOF, both the DONOR & DONEE have hereunder subscribed their names this _____ day of _____ 200_ at _____, Philippines.

_____

_____
DONOR DONEE

WITNESSES:

_____ _____

ACKNOWLEDGEMENT

Republic of the Philippines)
_____) S.S

BEFORE ME, a notary for and in the City of Makati, personally appeared:

Name	CTC Number	Date/Place Issued
(Donee)	00000000	June 28, 200_ / MakatiCity

known to me and to me known to be the same persons who executed the foregoing Deed of Donation and acknowledged to me that the same is their free and voluntary act and deed.

WITNESS MY HAND AND SEAL, on the date and place first above written.

Notary Public

Doc. No._____;
Page No. _____;
Book No._____;
Series of 200_.

This is a sample of a Deed of Donation. You may freely copy and revise this form.

SP SocPrep Form 7

OFFICE OF THE BARANGAY SUB-PROJECT MANAGEMENT COMMITTEE

Barangay: _____
Municipality: _____
Province: _____

SUB-PROJECT PROGRAM OF WOKS

Sub-project Title:	
Category :	
Physical Target:	
Total Sub-project Cost:	
Mode of Implementation:	

Project Description:				Sub-project Duration:		
				Equipment Needed:		
				Technical Personnel:		
Item No.	Scope of Work (Direct Cost)	% Wt.	Quantity	Unit of Measurement	Unit Price	Total
	TOTAL					

Breakdown Estimated Project Cost	Source of Fund				
	KALAHI-CIDSS Grant	Community	Local Gov't Units	Other Source	Total Cost
A. Direct Cost					
Materials Cost					
Equipment Rental					
Labor Cost:					
a. Skilled					
b. Unskilled					
Sub-total A					
B. Indirect Cost					
Pre-Engineering					
Supervision					
Contractor's Profit					
Taxes					
Hand Tools					
Material Testing					
Admin & Overhead					
Sub-total B					
TOTAL (A+B)					
ADD Contingency					
%					
Total Estimated Cost					
ADD: O&M (Other Amenities					
Grand Total					

Prepared by:

_____
Service Provider/ACT-DAC

Approved by:

_____
BSPMC Chairperson

Reviewed by:

_____
ACT-Deputy Area Coordinator

Concurred by:

_____
Barangay Chairperson

Recommending Approval:

_____
Municipal Engineer

_____
Municipal Mayor

Noted by:

Regional Community Infrastructure Specialist

Note: Costing to be used on the MIBF will be the TOTAL Estimated Cost

SP SocPrep Form 8

SUB-PROJECT CONCEPT FORM

Barangay: _____Municipality: _____Province: _____ Region: _____

A. GENERAL INFORMATION			
Name of proposed sub-project:			
Category:	Public Goods _____	Enterprise _____	Human Resource Dev't _____
What needs of the community will the proposed sub-project address?			
1.			
2.			
3.			

B. TECHNICAL DESCRIPTION	
Physical target: _____	Cost parameter: _____
Person's who assisted in the preparation of technical proposal:	
Proposed scope of works to be undertaken:	
Manpower requirement/sources: skilled	
Equipment requirement/sources	
Other component included in the proposal (e.g trainings)	
Procurement Method/s to be adopted: _____	

C. FINANCIAL ECONOMIC ASPECT				
Total Estimated Cost : Php_____				
Cost Sharing Arrangement:	Direct Cost	Indirect Cost	Total	% Total
Grant Amount				
LCC: BLGU				
Community				
MLGU				
PLGU/Others				
Sub-total				
TOTAL LCC Cash				
TOTAL LCC In-kind				
Total number of Household (HH) in the barangay: _____ Total Population _____ Male _____ Female _____ % to Total _____				
Number of HH currently without access to the needed services that can be served by the proposed sub-project:				
Current expenses without the proposed SP:				
Expected expenses after completion of proposed SP:				
Other benefits can be derived from the proposed sub-project:				

D. SAFEGUARD CONCERNS				
Any displacement or relocation of community members during implementation?			Yes __	No __
Acquisition of proposed site/location?	Deed of Sale __	Donated __	LGU Owned __	Others: (Specify) ___
Proposed site within the reservation area?	Yes ___	No ___		
Necessary permit/s accomplished? (e.g ECC, CNC)	Yes ___	No ___	EMP Only _____	
Mitigating measures to be undertaken for the environmental impacts of the sub-project?				

E. SP SUSTAINABILITY
Is there an existing O&M group or still to be organized?
Is the community willing to pay for Tariff and by How much?
Other sources of funds for the operation and maintenance activities?
Identified capability building requirements for O&M group?
How do we plan to maintain the completed sub-projects?

Prepared by:	*Approved for endorsement to the MIBF*
_____ Head, Project Preparation Team	_____ _____ Brgy. Chairperson BSPMC Chairperson
Approved for endorsement to KALAHI-CIDSS	*Technical Verification by:*
_____ Municipal Mayor/MIBF Convenor	_____ _____ Area Coordinator MIAC Representative

GUIDE FOR THE TECHNICAL REVIEW OF PROPOSED INFRA SUB-PROJECTS[1]

Name and Location of SP:

_____

I. General Information

Particular Trigger Points	Pass	Verify	Remarks
1. **Eligibility -** *the identified SP is not included on the Negative list & eligible for KC funding and the Site Validation Report on file.*			
2. **Responsiveness –** based on the PSA result			
3. **Name of SP** – *clearly defined whether construction, rehabilitation/improvement, concreting; High school or Elementary for school building and level of service for water system*			
4. **Physical Target** – *clearly stated in kilometer for roads, linear meters for bridges, drainage, protection works, number of classrooms & area in sq.m, and others as to the agreed mode of measurement*			
5. **Duration** – *within the designed timelines to complete per sub-project type and supported with Gantt Chart; realistic & attainable to complete as planned; within the 6 months SP implementation*			
6. **Technical Description** – *properly described the size, length of major work items to be undertaken*			
7. **Total Estimated Cost** – *within the current regional cost parameter of sub-project type*			
8. **Safeguards –** *requirements complied, on File (EMP/CNC, DOD, Cert/Res)*			
9. **Accountability-** *Name of T.A. Provider*			

II. Technical Plans and Specifications

Particular Trigger Points	Pass	Verify	Remarks
1. **Appropriate Technology –** *design considered the O&M capacity*			
2. **Completeness of Plans –** *minimum set or standard plans attached, signed and approved by an Engr. (sections, details, floor plans, traverse, profiles)*			
3. **Specifications –** *appropriate and complete technical specifications are attached to the proposal*			
4. **Details of Plan** – *cross-sections, profiles, traverse are complete and appropriate scale was adopte*d			
5. **Design Analysis –** *conformed to structural analysis or hydraulic analysis*			

III. POW and Detailed Cost Estimates

Particular Trigger Points	Pass	Verify	Remarks
1. **Work Items –** *list of pay items and mode of measurement are appropriate based on agreed standards work items*			
2. **Work Pay Items –** *are necessary and appropriate to complete the works; no unnecessary pay items are include in the program*			
3. **Unit Cost** – *major work items unit cost are within the prevailing allowable cost parameter*			
4. **Indirect Cost** – *list of indirect cost are within the agreed payable items;* *(cost of indirect items should be within the allowable ranges as stated in the revised sub-project manual)*			
5. **Derivation of Unit Cost** - *Equipment capability outputs are indicated and used as basis for the duration for rentals of equipment;* - *Indicate type and capability of equipment;* - *Manpower capability outputs are indicated and used as basis for*			

computation of manpower requirement and duration of workers - *Volume computations of earthworks (for road)*			
6. **Labor Rates** – *adopted the local rates of labor as agreed during the barangays assemblies and/or the minimum wage set by regional DOLE.*			
7. **Materials Cost** – *unit prices are within the current prevailing market price at the locality* - *Database of current price for construction materials available on file*			

Reviewed by:

_____

[1] To be attached to the proposal once it passes the screening and review of the regional technical staff (RCIS/DRCIS)

GUIDE DURING SUPERVISION AND MONITORING INFRA SUB-PROJECTS[1]

I. General Information:

Name of sub-project: _____ Physical Target: _____
Location: _____ Approved Cost: _____
Mode of Implementation: __ *By Force Account* ___ *By Contract* *% of* Grant released: _____
Procurement Method: Goods*;* ____ *Local Shopping* ____ *Local Bidding* % of LCC delivered: _____
Works: ____ *Local Shopping* ____ *Local Bidding*

Particular Trigger Points	Pass	Verify	Remarks
1. **Transparency:** Prescribed Signboard installed in an area accessible to community members and Minutes of Meeting(s) and/or Brgy. Assembly - SP Information and the latest updates posted ➢ Physical accomplishment *(at the time of visit)* ➢ Financial utilization *(at the time of visit)* - Sub-project meetings/conference *(e.g. BSPMC, BAs,Pre-Const.etc)*			
2. **Environmental & Social Safeguards:** Required documents readily available at BSPMC. - Acquisition documents *(e.g. DOD, Certification, Resolution)* on file - EMP and latest monthly reports on file - Planned mitigating measures observed during construction. - Permits *(bldg.; water application; tapstand installation, etc.)*			
3. **Sustainability:** Availability of Operation and Maintenance plan - O&M group formed/organized - Ad Hoc members formulated policies for O&M - O&M plan formulated and on file - Tariff recalibrated and agreed by end-users			
4. **Accountability:** Experienced technical staff was assigned to supervise the construction of the sub-project *(Name _____)*			

II. Technical Plans, Specifications and Construction Forms

Particular Trigger Points	Pass	Verify	Remarks
5. **Availability of approved plans –** Presence and completeness of approved engineering plans and specification at BSPMC office			
6. **Availability of other construction documents –** proper filing and maintenance of required documents at BSPMC office - Logbook, Weather Chart - Physical and Financial Reports - Satisfactory results of material testing conducted - Statement of Work Accomplished *(if by Contract)* - Approved Variation Order *(If any)* - Site instructions issued by the Project Engineer			

III. Community Procurement

Particular Trigger Points	Pass	Verify	Remarks

7. **Availability of procurement documents –** proper filing of procurement documents *(PCPP, Canvass Form, Abstract, POs, etc)*			
8. **Red Flags –** Community Facilitators observed and utilized the Red Flag templates & on-file according to procurement method/process adopted. - Finding was referred to the DAC for appropriate technical advice			
9. **Principles** – all stakeholders observed the procurement principles: - *Fairness,* competitive procurement process was observed *Economy,*awards were based on lowest evaluated, responsive and complying bid or quotations. - *Efficiency,* procurement activities were conducted within the given timeframe per procurement method adopted - *Transparency,* bid opening was conducted in public and Purchase Order and/or Notice of Award posted - *Accountable,* people involved in the procurement are aware of their roles and functions.			
10. **Fiduciary review**– all completed transactions are submitted to COA. - Receiving copy or transmittal *(submitted to FO or COA)* on file. - Noted red flags were properly resolved *(if any)*			

IV. Sub-project physical Inspection

Particular Trigger Points
11. **Plan vs Actual –** list all the observations and findings on the sub-project implementation at the time of inspection *(either during construction or after completion)*vis a vis the approved plans and work items listed on the Program of Works. *(Include in your evaluation the physical appearance of the sub-project during the inspection and cost comparison)*
12. **Agreed recommendations –** list down appropriate recommendations as discussed with the BSPMC/MCT members to correct the technical observations on the implementation of the sub-project. *(recommendations will serve as the site instructions for the PIT and BSPMC to follow)*
13. **Photo documentation –** if possible, insert or attach latest pictures on the progress of the sub-project implementation

V. Safety Measures

Particular Trigger Points
Describethesafety measures observed by the Project Implementation Team and the additional safety measure needed.

Inspection conducted by: Date:

_____ _____

With the presence of:

_____ _____

_____ _____

[1] To be used during the conduct of regular monitoring of on-going and completed sub-projects. Leave one (1) copy with the BSPMC office.
For completed sub-project, review the Final Inspection Report, SPCR and the Mutual Partnership Agreement

SPI Form 10

CONSTRUCTION LOGBOOK

Name of sub-project: _____
Physical Target: _____Total Approved Cost: _____
Location:_____
_____

Date: _____ Day: _____ Weather: _____

Labor Force Available:

Skilled Men: Foreman - _____
Carpenter - _____
Mason - _____
Plumber - _____
Welder - _____
H.E. Operator - _____
L.E. Operator - _____

Unskilled Men : _____
Unskilled Women: _____
Skilled Women (Specify): _____

Equipment/Tools present at site: (specify and number)

_____ _____ _____
_____ _____ _____
_____ _____ _____

Activities undertaken:

Output/s of the day

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

Problems encountered & action taken:

_____ _____
_____ _____
_____ _____

BSPMC/Project Staff/Visitors:

_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____

Comments/Observations/Recommendations:

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

SPI Form 11

BARANGAY SUB-PROJECT WORK SCHEDULE & PHYSICAL PROGRESS REPORT
For the Month of _____, 20___

Name of Sub-project:	Total Sub-Project Cost:	Labor Generated	Total	No. of Days	Ave. Rate/Day
Physical Target:					
Region:					
Province:					
Municipality:					
Barangay:					

I. To be filled up by MCT-Deputy Area Coordinator

Item No.	Description	QTY	Unit	Amount	Weight (%)	Physical Target	Previous Cumm.	Duration			
								Month 1	Month 2	Month 3	Month 4
	TOTAL										

II. To be filled up by MCT-Deputy Area Coordinator

Physical	% Progress (PLANNED)			PERIODIC					
				CUMULATIVE					
	% Progress (ACTUAL)			PERIODIC					
				CUMULATIVE					
	% of slippage (±)			PERIODIC					
				CUMULATIVE					

III. Major Issues Encountered:

_____

_____

_____

IV. Recommendations:

_____

_____

Prepared by:

_____
MCT-Deputy Area Coordinator
And or Service Provider

Concurred by:

_____
Proj. Implementation Team and
MIT Leaders

Reviewed & Checked by:

_____
ACT-Deputy Area Coordinator

Approved by:

_____
BSPMC Chair

Noted by:

_____
Municipal Engineer

_____
Regional Community Infrastructure Specialist

Note: Attach Material Records Sheet if physical accomplishment lags behind financial disbursements.

SPI Form 12

Republic of the Philippines

DEPARTMENT OF SOCIAL WELFARE AND DEVELOPMENT
KALAHI-CIDSS PROJECT
Province of _____
Office of the Barangay Sub-Project Management Committee
Barangay _____
Municipality_____

CHANGE/EXTRA WORK ORDER NO. ___

Name of Sub-Project: _____
Location: _____
TO: _____

You are hereby directed to make the herein described changes from the PLANS and SPECIFICATIONS, or do the following described works included in the PLANS and SPECIFICATIONS.

DESCRIPTION OF WORK TO BE DONE:_____
_____

REASONS FOR CHANGE/S: _____
_____
_____

CHANGES REQUESTED BY: _____
Works to be performed at original approved total cost.

ITEMIZED QUANTITIES AND COST REVISION ON REVERSE SIDE OF THIS SHEET

We, the undersigned implementers have given careful consideration to the proposed changes and hereby agree thereto. If this proposal is approved we will provide adequate materials, labor and equipment to perform any or all services necessary for the process shown on the reverse side of this sheet.	Difference in cost this change…….	
	Net Cost of previous changes…..	
	Original Contract/Approved Amount…..	
	Estimated Revised Contract/Approved Amount	
	By reason of this Proposed Change, ___ days extension of working time will be allowed.	

Prepared by:

_____ _____
MCT-DAC/Service Provider Date

Reviewed and Checked by:	Recommending Approval	Noted:	Approved:
_____	_____	_____	_____
ACT-DAC	Municipal Engineer	RCIS	BSPMC Chairperson
Date: _____	Date: _____	Date: _____	Date: _____

Note: No proposed work will be implemented unless the Variation Order is noted and approved by the RIE and BSPMC.

SPI Form 13

Republic of the Philippines
DEPARTMENT OF SOCIAL WELFARE & DEVELOPMENT
Province of _____
KALAHI-CIDSS Project

OFFICE OF THE BARANGAY SUB-PROJECT MANAGEMENT COMMITTEE
Barangay _____
Municipality of _____

SUSPENSION ORDER NO. _____

Name of Sub-project: _____
Location : _____

Date: _____

_____
_____
_____

You are hereby directed to suspend operation of the above sub-project, on _____ day of _____, 20___ ,

Please acknowledge the receipt of this order by dating, signing and returning three (3) of the attached copies. Retain one (1) copy for your file.

_____
BSPMC Chairperson

Concurred by:

_____
Deputy Area Coordinator

Date: _____

_____
I hereby acknowledge the receipt of the above notice.

_____
Contractor

Date: _____

SPI Form 13.1

Republic of the Philippines
DEPARTMENT OF SOCIAL WELFARE & DEVELOPMENT
Province of _____

KALAHI-CIDSS Project

OFFICE OF THE BARANGAY SUB-PROJECT MANAGEMENT COMMITTEE
Barangay _____
Municipality of _____

RESUME ORDER NO. _____

Name of Sub-project: _____
Location : _____

Date: _____

_____
_____
_____

You are hereby directed to resume construction operation of the above sub-project, on _____ day of _____, 20___ ,

Please acknowledge the receipt of this order by dating, signing and returning three (3) of the attached copies. Retain one (1) copy for your file.

_____
BSPMC Chairperson

Concurred by:

_____

Deputy Area Coordinator

Date: _____

_____

I hereby acknowledge the receipt of the above notice.

_____
Contractor

Date: _____

SPI Form 14

KALAHI-CIDSS Project
TIME SUSPENSION REPORT
For the Month of _____, 20____

Name of Sub-project: _____
Location : _____

Date	Weather Condition	Remarks	Time Suspension Recommended
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Total time suspension recommended this month _____ days
Total time suspension recommended previously _____ days
Grand total to date _____ days
Original completion / contract time _____ days
Revised completion / contract time due to approved suspension _____ days
Effectivity Date of Contract _____
Original Expiry Date _____
Revised Expiry Date after Suspension/Extension _____
Percent of Time Elapsed _____ Cumulative Phy.Accom._____

Prepared by:

_____
BSPMC ENGINEER / PIT LEADER

Reviewed & Recommend For Approval:

_____
MUNICIPAL ENGINEER

_____
DEPUTY AREA COORDINATOR

Approved:

_____
BSPMC Chairperson

Noted:

_____
Area Coordinator

SPI Form 15

Republic of the Philippines
DEPARTMENT OF SOCIAL WELFARE AND DEVELOPMENT
KALAHI-CIDSS:KKB PROJECT
A World Bank assisted Project under IBRD Loan No. 7147PH

JOINT INSPECTION REPORT[35]

Name of Sub-project:
_____

Location:
_____

Total Approved Cost: _____ **Revised Cost**: _____

Cost Sharing: KALAHI: _____ KALAHI: _____

Community: _____ Community: _____

Barangay Unit: _____ Barangay: _____

Municipal/Others: _____ Mun/Others: _____

FINDINGS:

I. SUB-PROJECT SCOPE OF WORK

Work Items	Orig. Qty	Unit Cost	Approved Cost	%	Acc. Qty	Actual Cost	%	Rem. Qty.	Estimated Cost	%
Construction of Intake Box										
Installation of Pipelines										
Construction of Reservoir										
Construction of Tapstands										
Total										

PHYSICAL DESCRIPTION (*Describe any unacceptable appearance from that of the plan e.g. physical dimension, workmanship*)

PHYSICAL APPEARANCE (Aesthetic, Visual)

PROJECT QUALITY

[35] This report should be attached to the RFR for Last Trance.

Required Material Tests	Actual Tests Performed
_____	_____
_____	_____

FINANCIAL:

Releases:	Disbursed:
_____	_____
_____	_____
_____	_____

Fund Balance as of Final Inspection: (If any) _____

ANY IDENTIFIED ENVIRONMENTAL IMPACT

MITIGATING MEASURES PROVIDED

FINDINGS/COMMENTS: *(Attach cost analysis for the remaining works)*

RECOMMENDATIONS:[36]

INSPECTORATE TEAM:

_____ Engineer/LGU Representative)	_____(Mun. Deputy Area Coordinator
_____ (BSPMC-PIT Representative)	_____ (Roving Bookkeeper)
_____ (BSPMC- Chairperson)	_____ (Area Coordinator)

Date of Inspection: _____

Notes & Comments of RCIS:	_____ Regional Community Infrastructure Specialist

Triggers to conduct Joint Inspection for sub-projects: When the sub-project accomplished almost 90% physical accomplishment (Particularly for Community Force Account Mode), the Deputy Area Coordinator should advise the BSPMC to request for the Joint Inspection Team (JIT). In cases where in a particular municipality, more sub-projects reach the triggers, schedules of the JIT should be coordinated by the ACT with the communities.

Instructions in Accomplishing the Joint Inspection Report

[36]Inspectorate Team should prepare official communication to the LGU & BSPMC on the results of inspection for their appropriate action. This report will form as an attachment.

Sub-Project identification:

1. Name of sub-project: Indicate the approved sub-project title

2. Location:	Indicate the sitio, barangay, municipality & province where the sub-project is constructed
3. Approved Cost:	Breakdown of sub-project cost approved by the 2nd MIBF
4. Revised/Actual Cost:	Based on inspection and evaluation, indicate the breakdown of revised cost to complete the sub-project.

I. Sub-project Scope of Work:

a. Work Items:	Indicate all approved work items and additional work items incorporated to complete the sub-project
b. Original Quantity:	Quantity based on the approved plans & POW
c. Unit Cost:	Unit cost based on the approved POW
d. Approved Cost:	the approved item cost based on the POW
e. Accomplished quantity:	work item quantity accomplished based on the last reporting period or an updated report before the joint inspection.
f. Actual Cost:	actual cost of the work item accomplished(in placed)
g. Remaining Quantity:	Remaining quantity of work item to complete the sub-project
h. Estimated Cost:	Estimated cost of the remaining works based on the approved unit cost.

II.	**Physical Description**	At the time of joint inspection, describe any acceptable or unacceptable works based from the approved plans and specifications. This could be in the form of materials used, workmanship or the actual dimension of the structure that did not conform to the approved plans.
III.	**Physical Appearance**	Describe the visual appearance of the sub-project.
IV.	**Project Quality**	Indicate the minimum quality testing required for the sub-project and the actual tests conducted
V.	**Financial**	
	Releases	Indicate the date and amount of release received by the community per tranche
	Disbursed	Indicate the actual amount disbursed by the community on the tranches received
	Fund Balance	Amount of cash remaining with the community at the time of inspection
VI.	**Environmental Impact**	Any identified environmental impact of the sub-project (Refer to the Environmental Management Plan)
VII.	**Mitigating Measures**	Mitigating measure provided by the community to minimized the environmental impact (refer to the EMP Reports)
VIII.	**Findings/Comments**	Specific findings and observations of the Inspectorate Team should be listed. Since the purpose of the evaluation is to facilitate the release of the Final Trance, it is noteworthy for the inspectorate team to provide a cost analysis of the remaining works to complete the

sub-projects. They should take note of the remaining materials at the site/bodega, cost of labor, cash on hand and the availability of remaining local counterpart, in preparing cost matrix as against the remaining works to be undertaken.

The Team may attach a separate computation for the cost analysis.

IX. Recommendations

Base on the findings from the physical description to environmental aspects, the team should provide necessary recommendations to address the observations and comments for the BSPMC, LGU and other stakeholders to rectify the work

Base on the cost analysis prepared, the inspectorate team in consultation with the community should submit their recommendations to facilitate the release of the last trance.

Official communication to BSPMC and LGU informing the results of the inspection should be prepared by the Team.

SPI Form 16-Road

Department of Social Welfare and Development
KALAHI:CIDSS Project

FINAL INSPECTION REPORT

(For Rural Roads)

Name of sub-project: _____ Date: _____
Location: _____
Program Length: _____
Actual Length: _____
Funding Source: Loan Proceed: Php _____
Local Counterpart Contributions:
Community: Php _____ Municipal LGU: Php _____
Barangay LGU: Php _____ Others (Specify) Php _____

Mode of Implementation:
Force Account _____ Mixed (FA & by Contract) _____
By Contract _____

SCOPE OF WORKS

Work Item /Description	Programmed Quantity	Unit	Actual Quantity	Unit	Explanatory Notes/Observations
Item 100 Clearing &Grubbing	_____	sq.m	_____	sq.m	_____
OK Rejected					
_____ _____ Line & design grade					_____
_____ _____ As to the design width (m)					_____
Item 102.1Road Excavation	_____	cu.m	_____	cu.m	_____
OK Rejected					
_____ _____ Line & design grade					_____
_____ _____ As to the design width (m)					_____
Item 103Structure Excavation	_____	cu.m	_____	cu.m	_____
OK Rejected					
_____ _____ Line & design grade					_____
Item 104Embankment	_____	cu.m	_____	cu.m	_____
OK Rejected					
_____ _____ Line & design grade					_____
_____ _____ Test results (FDT)					_____
Item 105Sub-Grade Preparation	_____	cu.m	_____	cu.m	_____
OK Rejected					
_____ _____As to the design width (m)					_____
_____ _____Line & design grade					_____
_____ _____ Test Results					_____

Item 200Aggregate Sub-Base Course _____cu.m _____ cu.m

OK Rejected

_____ _____As to the design width (m)

_____ _____Line & design grade

_____ _____Test Results (Grading)

_____ _____Test Results (FDT)

Item 201Aggregate Base Course _____cu.m _____ cu.m

OK Rejected

_____ _____As to the design width (m)

_____ _____Line & design grade

_____ _____Test Results (Grading)

_____ _____Test Results (FDT)

Item 311Portland Cement Concrete Pavement _____cu.m _____ cu.m

OK Rejected

_____ _____Line & design grade

_____ _____Test Results (Grading)

_____ _____Test Results (Compression)

Item 404Reinforcing Steel ____ _____cu.m _____ cu.m

OK Rejected

_____ _____Test Result (tensile stress)

Item 405Structural Concrete _____cu.m _____ cu.m

OK Rejected

_____ _____Workmanship of structure/s

_____ _____As to the design dimensions

of the RC structures

_____ _____Test Result (Design mixture)

_____ Test Result (Compression)

Item 500Pipe Culverts & Storm Drains (dia) _____ln.m _____ ln.m

OK Rejected

_____ _____Station Limits

_____ _____Workmanship (mortar fill)

Item 505Riprap & Grouted Riprap _____ln.m _____ ln.m

OK Rejected

_____ _____Station Limits

_____ _____Workmanship

Item 509Gabions _____ln.m _____ ln.m

OK	Rejected	
_____	_____	Station Limits
_____	_____	Workmanship

Note: Any deviations from the approved plans and POW must be supported with approved Variation Orders.

Remarks/Comments and Recommendations:

Inspected by:

Municipal Engineer/LGU Representative

Deputy Area Coordinator

BSPMC-PIT Representative

Municipal Roving Bookkeeper

BSPMC-Chairperson

Barangay Council Representative

Noted by:

Regional Community Infrastructure Specialist

SPI Form 16-PHF

Department of Social Welfare and Development
KALAHI:CIDSS Project

FINAL INSPECTION REPORT

(For Post Harvest Facilities)

Name of sub-project: _____ Date: _____
Location: _____
Program Length: _____
Actual Length: _____
Funding Source: Loan Proceed: Php _____
Local Counterpart Contributions:
Community: Php _____ Municipal LGU: Php _____
Barangay LGU: Php _____ Others (Specify) Php _____

Mode of Implementation:
Force Account _____ Mixed (FA & by Contract) _____
By Contract _____

SCOPE OF WORKS

Work Item /Description	Programmed Quantity	Unit	Actual Quantity	Unit	Explanatory Notes/Observations
Item 1.0Site Clearing	_____	sq.m	_____	sq.m	
_____ OK Rejected _____ _____ Design Specifications _____					
Item 2.1Earthworks & Foundation	_____	cu.m	_____	cu.m	
_____ OK Rejected _____ _____ Design Specifications _____					
Item 3.0Formworks/Scaffoldings	_____	bd.ft	_____	bd.ft	
_____ OK Rejected _____ _____ Design Specifications _____					
Item 3.1 Flooring	_____	cu.m	_____	cu.m	
_____ OK Rejected _____ _____ Design Specifications _____ _____ Finish (workmanship) _____ _____ Test Results (Mixture) _____ _____ Test Results (compression) _____					
Item 3.2 Columns	_____	cu.m	_____	cu.m	
_____ OK Rejected _____ _____ Design Specifications _____ _____ Finish (workmanship) _____ _____ Test Results (Mixture) _____ _____ Test Results (compression) _____					

Item 3.3 Beams _____cu.m _____ cu.m

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)
_____ _____ Test Results (Mixture)
_____ _____ Test Results (compression)

Item 3.4Reinforcing Steel _____ kg. _____ kg.

OK Rejected
_____ _____ Design Specifications

Item 4 CHB Wall _____sq.m ___ _____ sq.m

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)
_____ _____ Test Results (Mixture)

Item 5 Carpentry _____sq.m _____ sq.m

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 6 Roofing (G.I Sheets) _____sq.m _____ sq.m

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 7.1 Ceiling _____sq.m _____ sq.m

OK Rejected
_____ _____ Design Specifications (Clearance)
_____ _____ Finish (workmanship)

Item 7.2 Air Vents _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 8.1 Lavatory _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 8.2 Water Closet _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 9.1 Doors _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 9.2 Windows _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 10.1 Lighting Fixtures _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 10.2 Outlets _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 10.3 Utility Box _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 11 Painting _____ sq.m _____ sq.m.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 12.1 Furnitures (Chairs/Desk) _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 12.2 Furnitures (Tables) _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 12.3 Amenities (School Blackboard) _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 12.4 Amenities (Cabinets) _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Item 12.4 Amenities (Specify) _____ pcs. _____ pcs.

OK Rejected
_____ _____ Design Specifications
_____ _____ Finish (workmanship)

Note: Any deviations from the approved plans and POW must be supported with approved Variation Orders.

Remarks/Comments and Recommendations:

Inspected by:

Conforme:

Approval recommended:

Approved:

SPI Form 16 - Water

Department of Social Welfare and Development
KALAHI:CIDSS Project

FINAL INSPECTION REPORT

(For Water Supply Sub-Project)

Name of sub-project: _____ Date: _____
Location: _____
Program Length: _____
Actual Length: _____
Funding Source: Loan Proceed: Php _____
Local Counterpart Contributions:
Community: Php _____ Municipal LGU: Php _____
Barangay LGU: Php _____ Others (Specify) Php _____

Mode of Implementation:
Force Account _____ Mixed (FA & by Contract) _____
By Contract _____

SCOPE OF WORKS

Work Item /Description Programmed Quantity Unit Actual Quantity Unit Explanatory Notes/Observations

Item 1600 Excavation (structure & trench) _____ cu.m _____ cu.m
_____
OK Rejected
_____ _____ Line & design grade
_____
_____ _____ As to the design width (m)
_____

Item 1602-AInstallation of Pipeline (Transmission)
1602.1 Steel/G.I Pipe _____ln.m _____ ln.m
_____
1602.4 PVC Polyvinyl Chloride Pipe _____ ln.m _____ ln.m
_____
1602.5 Polythelene (PE) Plastic Pipe _____ ln.m _____ ln.m
_____
OK Rejected
_____ _____ Line & design grade
_____
_____ _____ Station limits
_____
_____ _____ Fittings & appurtenances
_____
_____ _____ Expose pipes
_____

Item 1602-BInstallation of Pipeline (Distribution)
1602.1 Steel/G.I Pipe _____ln.m _____ ln.m
_____
1602.4 PVC Polyvinyl Chloride Pipe _____ ln.m _____ ln.m
_____
1602.5 Polythelene (PE) Plastic Pipe _____ ln.m _____ ln.m
_____
OK Rejected
_____ _____ Line & design grade
_____
_____ _____ Station limits
_____
_____ _____ Fittings & appurtenances
_____
_____ _____ Expose pipes
_____

Item 1603Installation of Valves _____pcs._____pcs.
_____

OK Rejected
_____ _____ Gate Valves (dia.)
_____
_____ _____ Globe Valves (dia.)
_____
_____ _____ Blow-off Valve (dia.)
_____
_____ _____ Air release Valve (dia.)
_____

Spl Item Intake Box _____cu.m._____cu.m.
_____

OK Rejected
_____ _____ Workmanship of structure/s
_____
_____ _____ Structural Stability
_____
_____ _____ Test result (compression)
_____

Spl Item Const of Water Reservoir (dimension) _____cu.m._____cu.m.
_____

OK Rejected
_____ _____ Workmanship of structure/s
_____
_____ _____ Structural Stability
_____
_____ _____ Test result (compression)
_____

Spl Item Well Development _____ln.ft._____ln.ft.
_____

OK Rejected
_____ _____ Workmanship of structure/s
_____
_____ _____ Drilling Data
_____

Spl Item Installation of Pumping Facilities _____unit _____ unit
_____

OK Rejected
_____ _____ Workmanship of structure/s
_____
_____ _____ Structural Stability
_____
_____ _____ Initial Operation
_____

Spl Item Tapstand/Communal Faucet _____unit _____ unit
_____

OK Rejected
_____ _____ Workmanship of structure/s
_____
_____ _____ Structural Stability
_____
_____ _____ Safety of water meter
_____
_____ _____ Flow of water
_____
_____ _____ Drainage System
_____

Note: Any deviations from the approved plans and POW must be supported with approved Variation Orders.

Remarks/Comments and Recommendations:

Inspected by:

Municipal Engineer/LGU Representative

Deputy Area Coordinator

BSPMC-PIT Representative

Municipal Roving Bookkeeper

BSPMC-Chairperson

Barangay Council Representative

Noted by:

Regional Community Infrastructure Specialist

SPI Form 16-Buildings

Department of Social Welfare and Development
KALAHI:CIDSS Project

FINAL INSPECTION REPORT

(For Buildings)

Name of sub-project: _____ Date: _____
Location: _____
Program Length: _____
Actual Length: _____
Funding Source: Loan Proceed: Php _____
Local Counterpart Contributions:
Community: Php _____ Municipal LGU: Php _____
Barangay LGU: Php _____ Others (Specify) Php _____

Mode of Implementation:
Force Account _____ Mixed (FA & by Contract) _____
By Contract _____

SCOPE OF WORKS

Work Item /Description	Programmed Quantity	Unit	Actual Quantity	Unit	Explanatory Notes/Observations
Item 1.0 Design Specifications	_____	sq.m	_____	sq.m	
OK Rejected _____ _____ Design Specifications					
Item 2.1 Earthworks and Foundation	_____	cu.m	_____	cu.m	
OK Rejected _____ _____ Design Specifications					
Item 3.0 Formworks/Scaffoldings	_____	bd.ft	_____	bd.ft	
OK Rejected _____ _____ Design Specifications					
Item 3.1 Flooring	_____	cu.m.	_____	cu.m	
OK Rejected _____ _____ Design Specifications _____ _____ Finish (workmanship) _____ _____ Test results (Mixture) _____ _____ Test results (compression)					
Item 3.2 Columns	_____	cu.m.	_____	cu.m	
OK Rejected _____ _____ Design Specifications _____ _____ Finish (workmanship) _____ _____ Test results (Mixture) _____ _____ Test results (compression)					

Item 3.3 Beams _____ cu.m._____ cu.m.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____
_____ _____ Test results (Mixture)
_____
_____ _____ Test results (compression)
_____

Item 3.4 Reinforcing Steel _____kg. _____ kg.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Test results (tensile stress)
_____

Item 4 CHB Wall _____sq.m._____sq.m.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____
_____ _____ Test results (Mixture)
_____

Item 5 Carpentry _____bd.ft._____bd.ft.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 6 Roofing (G.I Sheets) _____sq.m._____sq.m.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 7.1 Ceiling _____sq.m _____sq.m.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 7.2 Air Vents _____pcs. _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 8.1 Lavatory _____pcs _____pcs.
_____

OK Rejected

_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 8.2 Water Closet _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 9.1 Doors _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 9.2 Windows _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 10.1 Lighting Fixtures _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 10.2 Outlets _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 10.3 Utility Box _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 11 Painting _____sq.m _____sq.m.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 12.1 Amenities (Chairs/Desks) _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 12.2 Amenities (Tables) _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 12.3 Amenities (Writing board) _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 12.4 Amenities (Cabinets) _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Item 12.4 Other Amenities (Specify) _____pcs _____pcs.
_____

OK Rejected
_____ _____ Design Specifications
_____
_____ _____ Finish (workmanship)
_____

Note: Any deviations from the approved plans and POW must be supported with approved Variation Orders.

Remarks/Comments and Recommendations:

Inspected by:

Municipal Engineer/LGU Representative

Deputy Area Coordinator

BSPMC-PIT Representative

Municipal Roving Bookkeeper

BSPMC-Chairperson

Barangay Council Representative

Noted by:

Regional Community Infrastructure Specialist

SPI Form 17

SUB-PROJECT COMPLETION REPORT

A. General Information:

Name of sub-project:			
Sub-project category:		Actual Physical Target:	
Barangay/s covered:		Actual Total Cost:	
Municipality & Class		KALAHI-Grant Received:	
Province:		Total Counterpart Delivered:	
Date of 1st MIBF:		Actual Total Direct Cost:	
Date of 2nd MIBF:		Actual Total Indirect Cost:	
No. of HH served:		Date Started:	
Total Population in the brgy:	Male _____ Female _____	Date Completed:	
Total Population served by the sub-project:	Male _____ Female _____	Date of Inauguration:	

B. Sub-project Description:
The sub-project is completed with the following work items and activities constructed/implemented by the concerned community/ies. (insert additional rows if needed)

Item of Works	Quantity	Unit	Unit Cost	Total
1.				
2.				
3.				
4.				
5.				
6.				
Indirect Cost				
Total Project Cost				

C. Method of sub-project implementation:

c.1 Procurement mode and procedures used in the sub-project implementation.

c.2 Please state the major problems encountered during implementation and actions taken by the ACT and the community volunteers/leaders to solve the issues.

D. Labor Generated: (labor provided & paid during the construction period)

Particular	Number	Person Days	Rate/Day	Total Amount Paid
Skilled (men)				
Skilled (women)				
Unskilled (men)				
Unskilled (women)				
TOTAL PAID LABOR				

E. Project Benefits: Highlight the initial impact provided by the sub-project to the covered community/ies.

e.1 Condition of the community before the Project intervention (How long were you deprived of the service? How costly was it to access the service? How far?

e.2 Condition of the community after the sub-project completion.

F. Environmental Aspect: Discuss any environmental impacts during the construction and the mitigating measure provided by the community. (refer to the Environmental Management Plan, EMP Reports)

G. CapabilityBuilding Impact: What were the trainings provided by the project to the community and the result observed.

H. Community Volunteers: In recognition of the community volunteers who in one way or another made the sub-project possible, list their names and the corresponding team they were involved.

Name of community volunteers	Sitio/Barangay	Designation/Team
1.		PPT
2.		BRT
3.		BAC
4.		AIT
5.		O&M
6.		PT
7.		PIT
8		MIT
9.		BSPMC
10.		

I. General Assessment:

I.1. Cost Effectiveness: Actual overall cost compared to similar Project in the locality. Indicate cost of similar project constructed by the agency. What % (Higher/Lower) compared to KC completed SP? Indicate also the Cost per Population served.

I.2. Plan vs. Actual: Did the SP incurred overrun or savings? By how much? If savings incurred, how was it utilized?

I.3. Financial Aspect: On-time releases of KC-Grant (On the average, how many days did it take from the ACT receipt of community requests to the date of fund release to the community account? List contributing factor of the case.

I.4. Describe the clients/users that the KC sub-project will serve (State if they are an IP, predominantly women sector, etc.)

I.5. Participation: On the average, How many household representatives participated in deliberations of the Sub-project and its endorsement to the Municipal Inter-Barangay Forum?

I.6. Governance:

a. LCC as % to total

b. Was LCC on time?

c. Commitment vs. deliveries/fulfillment of all LCC Commitments

d. Supporting ordinances for O&M activities

e. Technical Assistance provided by the LGU? (Such as, during planning and implementation)

f. Commitment of Local Government Units for O&M. (Please attach O&M Partnership agreement)

I.7 Multi-Stakeholdership: Name other organizations, agencies and individuals that provided contributions to the Sub-project. Please indicate amount cash and in-kind.

I.8 External Monitoring: (Name external monitors that visited the Sub-project)

a. WB missions _____ Date/s _____
b. NGO members _____ Date/s _____
c. Others, specify _____ Date/s _____

I.9 If there was any Grievance/Complaint that arose during implementation, how was it resolved?
J. Lessons Learned: Please share any lesson/s and good practice/s learned from your implementation of the Sub-project and the KC in general.

Prepared by:	Certified by:
_____ BSPMC Chairperson Date: _____	_____ Barangay Chairperson Date: _____

VERIFICATION/CONFIRMATION:

1. Project Signboard Updating and Reporting a. Billboard: Yes____ No. ____ b. Statement of expenditures posted in community board? Yes ____ No ____ c. Expenditures reported to Barangay Assembly? Yes ____ No ____ Name/Signature, CF
2. Did community meet basic financial reporting standard in FM & A manual? Yes ____ No _____ Name/Signature, RB
3. Did the community implemented the Sub-project as per approved technical plans & specifications? Yes ____ No ____ Was it within the budget? Yes ____ No ____ Name/Signature, RB
Noted by: _____ Area Coordinator

To be submitted together with;
a. Site Validation Report
b. Final Inspection Report
c. Sub-Project Concept
d. Mutual Partnership Agreement

Instructions in filling-up the Sub-Project Completion Report (SPCR)

The ACT is expected to assist the community volunteers in preparing the SPCR. The SPCR together with the required attachments must be made available before the inauguration day. The SPCR will be the highlight of the program together with the signing of the Mutual Partnership Agreement and handling over of the O&M plan to the O&M group.

A. General Information:

1. Name of Sub-project – Indicate the complete approved name of the sub-project (ex. Improvement & expansion of Brgy. Wangwang Water Supply System)

2. Sub-project category – Indicate whether water system, health station, rural roads, bridge, etc.

3. Physical Target – Indicate the actual physical dimension of the completed sub-project (e.g. kms for roads, sq.m for buildings, ln.m for drainage/riprap, etc.)

4. Barangay/s – Name of barangays covered by the sub-project

5. Municipality – Name of municipality and the municipal class (ex. Tinoc – 5th class)

6. Province – Name of province

7. Total SP Cost – Actual total construction cost of the sub-project

8. KALAHI Grant – Total amount of grant released to the community

9. Total LCC – Total amount of commitment delivered by the community, LGU's (in cash & in-kind)

10. Date of 1st MIBF – Indicate the 1st MIBF

11. Date of 2nd MIBF – Indicate the 2nd MIBF

12. Date Started – Indicate the actual date the sub-project started

13. Date Completed – Indicate the actual completion date of the sub-project

14. Date of Inauguration – Indicate the actual date the completed sub-project was inaugurated

15. No. of HH served – Indicate the total number of households served by the sub-project (for common projects with other barangay/s include the number of HH served)

16. Total population in the brgy – Indicate the total population of the brgy categorized by gender

17. Total population served by the sub-project – Indicate total population categorized by gender that benefit from the sub-project

B. Sub-project description:

1. Provide a brief description of the sub-project such as name of the spring source and its location. Location and elevation of the concrete/steel reservoir from the target area. Type of water pipes installed in the system.

2. List all work items done during the construction stage and the actual cost involved per line item. Indicate also the actual cost of indirect cost incurred. (e.g. admin and overhead, pre-engineering, etc.)

C. Description of sub-project implementation:

1. Describe the procurement process adopted by the community. From the selection of procurement method to its actual implementation. Describe also the process of construction methods used, re: scheduling and distribution of available resources.

2. Describe the problems encountered during the actual sub-project implementation (e.g delayed delivery of construction materials, etc.) and the action taken by the ACT, RPMT and the community to address the problems.

D. Labor paid out of the KALAHI Grant:

E. Describe briefly the initial gains and benefits experienced by the community after the completion of the sub-project.
(ex. Cost of transportation before and after the sub-project; time consumed for fetching water, travel distance for accessing education and health services; etc.)

F. Enumerate the environmental impacts during and after the construction period and the corresponding mitigating measures provided by the community.

G. List of community trainings provided and the impact made to the volunteers

H. list of Ad Hoc Committee volunteers that participated the Community Empowerment Activity Cycle

I. State the overall assessment of the community with regards to the sub-project implementation

1. Cost of other similar type of infrastructure/intervention provided to the locality or nearby municipality

2. Cost effectiveness of the sub-projects as per actual cost against the program amount

3. Average number of days from the date of submission of the BSPMC request to the release of funds

4. Majority of end users. It IP area, indicate the name of Tribe

5. Average participation rate during Barangay Assemblies conducted from 1st BA to the last BA conducted

6. Actual commitments delivered and O&M arrangement forged by the community with full documentation

7. Other entities that provided contributions during preparation to implementation of the sub-project

8. List of monitors who visited the area. (KC-RPMT, NPMO staff, etc.)

9. Type of grievance received and resolved during the empowerment activity cycle

J. Lessons that the community would like to share for implementing the KC project and aspect that they would like to improve on the next project implementation process

SPI Form 18

MUTUAL PARTNERSHIP AGREEMENT

KNOW ALL MEN BY THESE PRESENT:

This Agreement, made and executed this _____ day of _____, 20__ at _____, _____, Philippines by and between:

The Barangay Sub-Project Management Committee, an AD HOC Committee of the Barangay Assembly formed during the KALAHI-CIDSS sub-project project establishment in Barangay _____, municipality of _____, and represented by its Chairperson, _(name of Chairperson)_, herein referred to as "**BSPMC**";

The _(name of Operation and Maintenance Group)_, a group/association established to operate and or manage the KALAHI-CIDSS completed sub-project in Barangay _____, municipality of _____ and represented by its Chairperson/President, __(name of President)_, herein referred as "**Association**";

The Barangay Local Government Unit of Barangay _____ in the municipality of _____ and represented by its Barangay Chairman, __(name of Brgy. Chairperson)_, herein referred to as "**BLGU**";

The Municipal Local Government Unit, a local government unit existing under the laws of the Republic of the Philippines, located in the municipality of _____, province of _____, and represented by its Municipal Mayor, _(name of the Municipal Mayor)_, herein referred as "**MLGU**";

The name of other stakeholders (NGOs or GOs) with their office address and their office Head representative.

_____

_

_____

_

_____

(Other stakeholder)

\- and -

The Department of Social Welfare and Development – Field Office ____, a government agency existing under the Republic of the Philippines, with main office at _____, and represented by its Regional Director, __(name of Regional Director)_, herein referred as the "**DSWD-KALAHI-CIDSS**";

WITNESSETH THAT:

WHEREAS, the DSWD through its KALAHI-CIDSS:KKB Project funded the sub-project intervention identified by the community during their participatory situational analysis.

WHEREAS, the community with the leadership of the BSPMC and the assistance provided by the local government units, BLGU, MLGU and other stakeholders was able to satisfactorily complete their sub-project, ___(name of sub-project)____.

WHEREAS, the Project and the community intends to sustain the delivery of services provided by the completed sub-project through proper and timely operation and maintenance activities.

WHEREAS, in consultation and coordination with all stakeholders and beneficiaries, an Operation and Maintenance Plan for the sub-project was prepared and agreed to be implemented by the association /group responsible.

WHEREAS, amenities and software needed to maximize the services are agreed to be shouldered by the stakeholders and beneficiaries during the operation and maintenance period.

NOW, THEREFORE, for and in consideration of the foregoing premises, the PARTIES do hereby mutually agree and bind themselves as follows:

I. General Policies and Principles

1. That the Association/group will ensure implementation of Operation and Maintenance Plan of the completed sub-project;

2. That the resources needed for the operation and maintenance will be a community and LGU responsibilities, and as such shall be reflected on their Barangay Development Plan (PDP);

3. That DSWD as the implementing agency of the KALAHI-CIDSS:KKB Project shall be responsible in coordinating and monitoring the compliance of the parties to the specifications of this agreement. A regular monitoring of O&M activities will be conducted and Sub-project Evaluation during operation period will also be conducted twice a year.

II. Roles

The following are the agreed commitments; roles and functions of the major stakeholders of the sub-project (please attach additional sheet/s if necessary):

1. The Association/Group

2. The Barangay Local Government Unit

3. The Municipal Government Unit

4. Other stakeholders (e.g. NGO, School or Health Board)

EFFECTIVITY

This Memorandum of Agreement shall take effect immediately after being signed by the parties herein.

IN WITNESS THEREOF, the parties, through their duly authorized representatives, have hereunto entered into this Agreement and affixed their signatures on the date and place herein above-mentioned.

_____	_____
BSPMC- Chairperson	Association/Group President
_____	_____
Barangay Chairperson	Representative of other stakeholder
_____	_____
Municipal Mayor	DSWD-Regional Director

Witness:

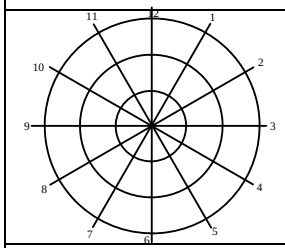
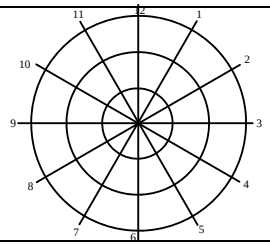
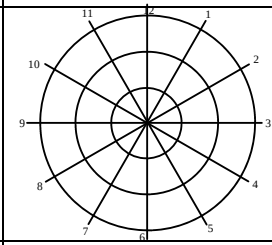
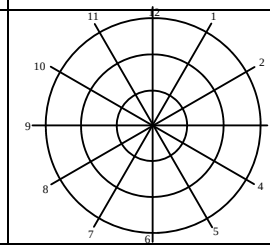
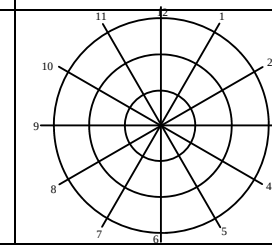
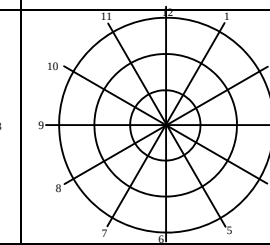
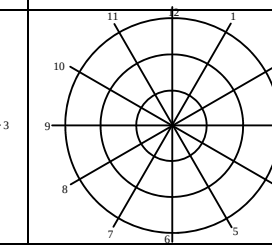
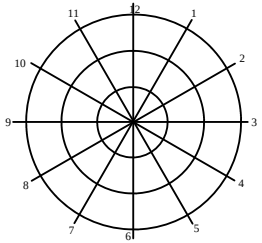
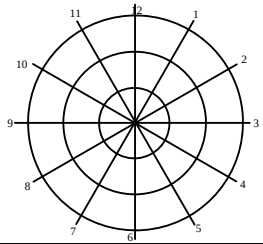
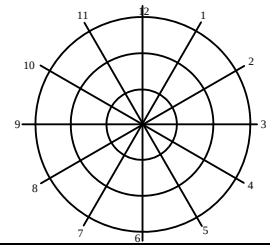
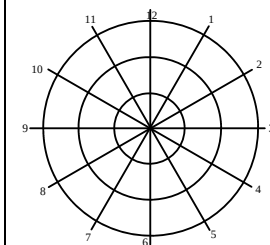
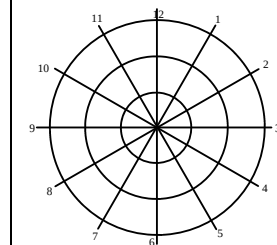
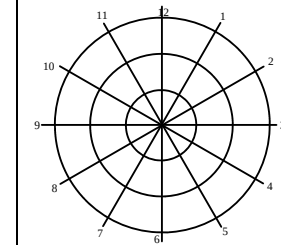
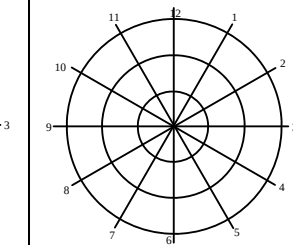
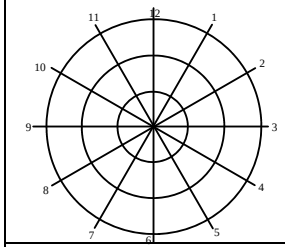
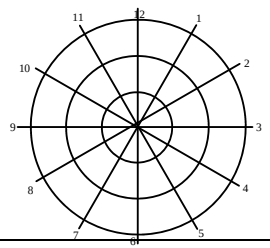
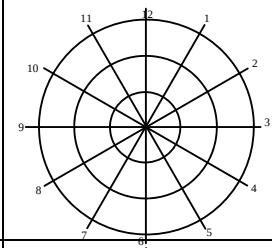
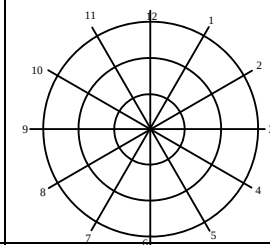
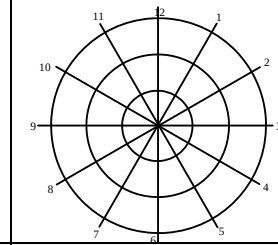
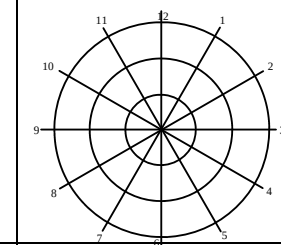
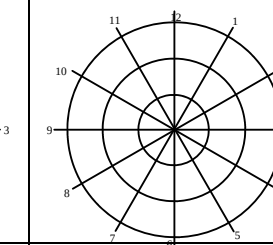
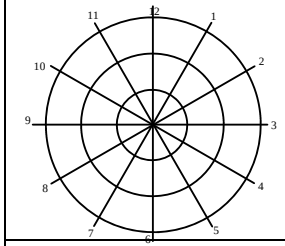
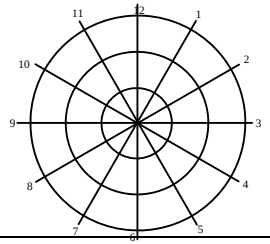
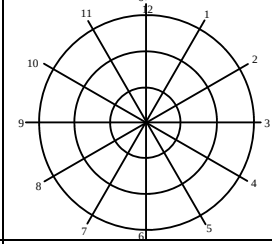
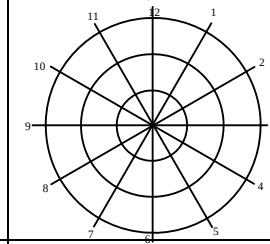
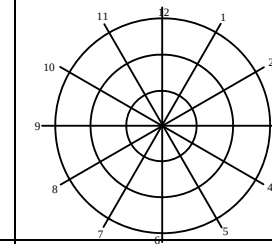
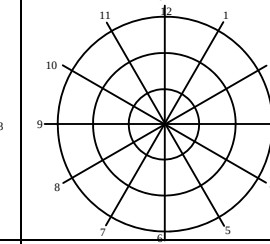
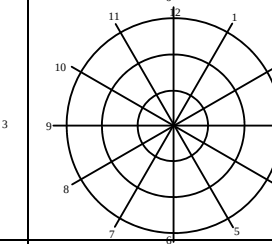
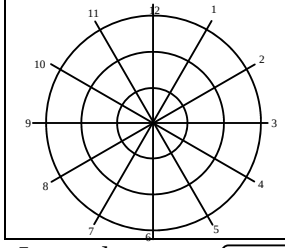
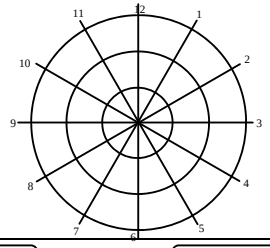
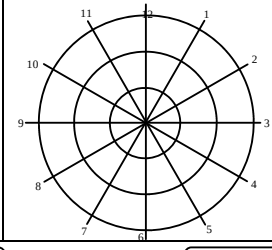
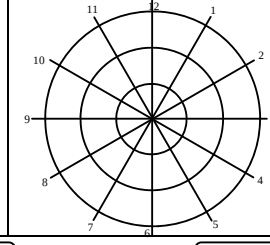
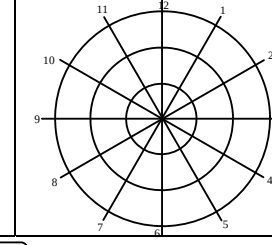
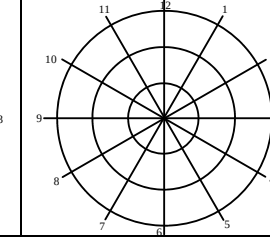
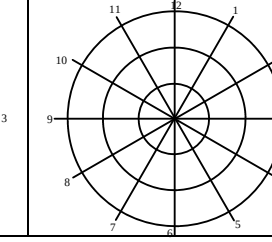
_____	_____	_____
MPDO	LPRAO-Designate	MSWDO

ACKNOWLEDGEMENT

WEATHER CHART

SPI Form 19

Month of _____, 20___

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
						
						
						
						
						

Legend: y ate Rain Rain (Unworkable)

Project Grouping Matrix for Determination of EIA Report Types for New Single & Co-Located Projects [1]

GROUP I: ENVIRONMENTALLY CRITICAL PROJECTS (ECPs) [2] in both Environmentally Critical Areas (ECAs) and Non-ECAs, as declared in and Presidential Proclamation No. 803 (1996) for Gold Courses, and Presidential Proclamation No. 2146 (1981) for Heavy and Resource Extractive Industries & Infrastructure Projects

	Project Type		Project Size Parameter	EIA Report Type Required / Decision Document Environmental Impact Statement (EIS) / ECC
	A.	**GOLF COURSE PROJECTS**		
1.	A.1.	Golf course projects/complex	number of holes	regardless of number of holes
	B.	**HEAVY INDUSTRIES**		
2.	B.1.	**Iron and Steel Mills** [4]	annual production rate	≥ 30,000 MT
3.	B.2.	**Non-Ferrous Metal Industries** [5]	annual production rate	≥ 30,000 MT
	B.3.	**Petroleum and Petrochemical Industries** [6]		
4.	B.3.a.	Petrochemical industry projects	annual production rate	≥ 30,000 MT
5.	B.3.b.	Recycling of oil and other petroleum-based chemicals	daily recycling rate	≥ 10 MT
6.	B.3.c.	Refineries	annual production rate	≥ 30,000 barrels
7.	B.4.	**Smelting Plants** [7]	annual smelting rate of raw material	≥ 15,000 MT
	C.	**RESOURCE EXTRACTIVE INDUSTRIES**		
	C.1.	**FISHERY PROJECTS - DIKES FOR/AND FISHPOND DEVELOPMENT PROJECTS** [8]		
8.	C.1.a.	Fishery/Aquaculture Projects (inland-based, e.g., lakes, rivers, etc.)	total water spread area to be utilized	≥ 25 hectares
9.	C.1.b.	Fishery/Aquaculture Projects in water bodies (coastal areas)	total water spread area to be utilized	≥ 100 hectares
	C.2.	**FORESTRY PROJECTS**		
	C.2.a.	Logging Projects		
10.	C.2.a.1	Community Based Forest Resources Utilization (CBFRU) [9]	volume of trees to be cut	≥ 10,000 m³
11.	C.2.a.2	Integrated Forest Management Agreement (IFMA) projects [9]	volume of trees to be cut	≥ 10,000 m³

GROUP I: ENVIRONMENTALLY CRITICAL PROJECTS (ECPs) [2] in both Environmentally Critical Areas (ECAs) and Non-ECAs, as declared in and Presidential Proclamation No. 803 (1996) for Gold Courses, and Presidential Proclamation No. 2146 (1981) for Heavy and Resource Extractive Industries & Infrastructure Projects				
Project Type			Project Size Parameter	EIA Report Type Required / Decision Document
				Environmental Impact Statement (EIS) / ECC
12.	C.2.a.3	Timber License Agreement (TLA)	volume of trees to be cut	≥ 10,000 m³
13.	C.2.b.	Grazing Projects [9,10]	grazing capacity	> 1 head/hectare
14.	C.2.c.	Introduction of Exotic Fauna in Public and Private Forests		Regardless of number or area
15.	C.2.d.	Major Wood Processing Projects	equivalent annual production rate	> 8,000 m³
16.	C.2.b.1	Pulp and Paper Industries	annual production capacity	≥ 50,000 MT
	C.3.	**MAJOR MINING AND QUARRYING PROJECTS**		
17.	C.3.a.	Coal mining	annual extraction rate	> 70,000 MT
	C.3.b.	Extraction of metallic ores (on shore)		
18.	C.3.b.1	• Open pit method with mechanical operations, blasting or combinations thereof	annual extraction rate OR area to be mined	≥ 100,000 MT OR ≥ 25 hectares
19.	C.3.b.2	• Other methods	annual extraction rate OR area to be mined	≥ 150,000 MT OR ≥ 25 hectares
20.	C.3.c.	Extraction of non-metallic ores with or without explosive • Limestone /shale/silica/clay/placer and other non-metal ores • Aggregates (sand, stone, gravel) • Dredging activities resulting to commercial use or ore recovery	annual extraction rate OR quarry area	≥ 75,000 MT OR ≥ 20 hectares
	C.3.d.	Extraction of Oil and Gas (Land-based) [11]		
21.	C.3.d.1	• Commercial extraction of oil	daily commercial extraction rate	≥ 4,000 barrels (or equivalent)
22.	C.3.d.2	• Commercial extraction of gas	daily commercial extraction rate	≥ 250,000 m³
23.	C.3.e.	Metallic Mineral or ore processing (e.g., copper, lead, nickel, cobalt, zinc, sulfur, silver, magnesium and manganese, gold)	annual processing (inputs)	≥ 70,000 MT
24.	C.3.f.	Non-metallic mineral processing plants like cement, other cement products, clinker, limestone	annual production rate	≥ 50,000 MT
25.	C.3.g.	Non-metallic mineral processing projects like ceramic industries, manufacture of glass and glass products, manufacture and processing of calcium	annual production rate	≥ 70,000 MT
26.	C.3.h.	Off-shore mining (including commercial extraction of oil and gas, deuterium) [11]		Regardless of commercial capacity or area

GROUP I: ENVIRONMENTALLY CRITICAL PROJECTS (ECPs) [2] in both Environmentally Critical Areas (ECAs) and Non-ECAs, as declared in and Presidential Proclamation No. 803 (1996) for Gold Courses, and Presidential Proclamation No. 2146 (1981) for Heavy and Resource Extractive Industries & Infrastructure Projects				
Project Type			Project Size Parameter	EIA Report Type Required / Decision Document
				Environmental Impact Statement (EIS) / ECC
	D.	**INFRASTRUCTURE PROJECTS**		
27.	D.1.	**MAJOR DAMS**	Reservoir flooded area OR water storage capacity	≥ 25 hectares OR ≥ 20 million m^3
28.	D.2.	**MAJOR RECLAMATION PROJECTS**	area reclaimed	≥ 50 hectares
	D.3.	**MAJOR ROADS & BRIDGES**		
29.	D.3.a.	Bridges and viaducts, new construction	length	≥ 10.0 km
30.	D.3.b.	On-grade railway system, new		Regardless of length and width
31.	D.3.c.	Roads, new construction, widening (including RO-RO facilities)	length with no critical slope OR length with critical slope	≥ 20.0 km OR ≥ 10.0 km
32.	D.3.d.	Tunnels and sub-grade roads and railways	length	≥ 1.0 km
	D.4.	**MAJOR POWER PLANTS (Proc No. 2146 declared types: fossil-fueled, nuclear fueled, hydroelectric or geothermal)**		
33.	D.4.a.	Fuel Cell	total power production capacity	≥ 100 MW
34.	D.4.b.	Gas-fired thermal power plants	total power production capacity	≥ 50 MW
35.	D.4.c.	Geothermal facilities	total power production capacity	≥ 50 MW
36.	D.4.d.	Hydropower facilities	water impounding capacity	≥ 20 million cubic meters
37.	D.4.e.	Other thermal power plants (e.g., diesel, bunker, coal, etc.)	total power production capacity	≥ 30 MW

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)					
First Set of Group II Projects under similar Project Types as declared in Presidential Proclamation No. 2146					
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document	
				Initial Environment Examination[3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report[12] / CNC
	A.	**HEAVY INDUSTRIES**			
38.	A.1.	**Iron and Steel Mills** [4]	annual production rate	> 200 MT but < 30,000 MT	≤ 200 MT annually AND ≤ 1.0 MT daily
39.	A.2.	**Non-Ferrous Metal Industries** [5]	annual production rate	> 200 MT but < 30,000 MT	≤ 200 MT annually AND ≤ 1.0 MT daily
	A.3.	**Petroleum and Petrochemical Industries** [6]			
40.	A.3.a.	Petrochemical industry projects	annual production rate	> 200 MT but < 30,000 MT	≤ 200 MT annually AND ≤ 1.0 MT daily
41.	A.3.b.	Recycling of oil and other petroleum-based chemicals	daily recycling rate	> 1.0 MT but < 10 MT	≤ 1.0 MT daily AND ≤ 200.0 MT annually
42.	A.3.c.	Refineries	annual production rate	> 200 barrels but < 30,000 barrels	≤200 barrels annually AND ≤ 1.0 barrels daily
43.	A.4.	**Smelting Plants** [7]	annual smelting rate of raw material	> 200 MT but < 15,000 MT	≤ 200 MT annually AND ≤1.0 MT daily
	B.	**RESOURCE EXTRACTIVE INDUSTRIES**			
	B.1.	**FISHERY PROJECTS – DIKES FOR/AND FISHPOND DEVELOPMENT PROJECTS** [8]			
44.	B.1.a.	Fishery/Aquaculture Projects (inland-based, e.g., lakes, rivers, etc.)	total water spread area to be utilized	≥ 1 hectares but < 25 hectares ©	< 1 hectare
45.	B.1.b.	Fishery/Aquaculture Projects in water bodies (coastal areas)	total water spread area to be utilized	≥ 1 hectare but < 100 hectares	< 1 hectare
	B.2.	**FORESTRY PROJECTS**			
	B.2.a.	Logging Projects			
46.	B.2.a.1	Community Based Forest Resources Utilization (CBFRU)[9]	volume of trees to be cut	< 10,000 m³	
47.	B.2.a.2	Integrated Forest Management Agreement (IFMA) projects [9]	volume of trees to be cut	< 10,000 m³	
48.	B.2.a.3	Private land timber utilization (PLTU) [9]	volume of trees to be cut	≥ 100 m³ ©	< 100 m³
49.	B.2.a.4	Timber License Agreement (TLA)	volume of trees to be cut	< 10,000 m³	

Proj Matrix Form 20.3

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)					
First Set of Group II Projects under similar Project Types as declared in Presidential Proclamation No. 2146					
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold Decision Document	
				Initial Environment Examination[3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report[12] / CNC
50.	B.2.b.	Grazing Projects [9,10]	Grazing capacity		1 head/hectare (but not more than 100 heads / 100 hectare)
51.	B.2.c.	Introduction of Exotic Flora in Public and Private Forests		Regardless of number or area	
52.	B.2.d.	Minor Wood Processing Projects [9]	equivalent annual AND production rate	≥ 1,000 to 8,000 m³	< 1,000 cubic meters
53.	B.2.d.1	Pulp and Paper Industries	annual production capacity	< 50,000 MT	
	B.3.	**MINOR MINING & QUARRYING PROJECTS**			
54.	B.3.a.	Batching Plant (with or without crushing)		All batching plants ©	
55.	B.3.b.	Coal mining	annual extraction rate	Up to 70,000 MT ©	
	B.3.c.	Extraction of metallic ores (on shore)			
56.	B.3.c.1	• Open pit method with mechanical operations, blasting or combinations thereof	annual extraction rate AND area to be mined	< 100,000 MT AND < 25 hectares	
57.	B.3.c.2	• Other methods	annual extraction rate AND area to be mined	> 200 MT but < 150,000 MT AND < 25 hectares	≤ 200.0 MT per year AND ≤ 1.0 MT daily extraction
58.	B.3.d.	Extraction of non-metallic ores with or without explosive • Limestone /shale/silica/clay/placer and other non-metal ores • Aggregates (sand, stone, gravel) • Dredging activities resulting to commercial use or ore recovery	annual extraction rate AND quarry area	< 75,000 MT AND < 20 hectares ©	
	B.3.e.	Extraction of Oil and Gas (Land-based) [11]			
59.	B.3.e.1	• Commercial extraction of oil	daily commercial extraction rate	< 4,000 barrels (or equivalent)	
60.	B.3.e.2	• Commercial extraction of gas	daily commercial extraction rate	< 250,000 m³	
61.	B.3.f.	Marble slab processing plant		All marble slab processing plants ©	
62.	B.3.g.	Metallic Mineral or ore processing (e.g., copper, lead, nickel, cobalt, zinc, , silver, magnesium and manganese, gold, placer with metal content)			

ProjMatrixForm 20.4

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)					
First Set of Group II Projects under similar Project Types as declared in Presidential Proclamation No. 2146					
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold Decision Document	
				Initial Environment Examination[3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report[12] / CNC
63.	B.3.g.1	▪ With physical or mechanical processing	annual processing (inputs)	> 200.0 MT annually but < 70,000 MT	≤ 200.0 MT annually AND ≤1.0 MT daily
64.	B.3.g.2	▪ With chemical processing	annual processing (inputs)	< 70,000 MT	
65.	B.3.h.	Non-commercial Geothermal Exploration Projects		Regardless of area or number of wells	
66.	B.3.i.	Non-commercial mineral and fossil mining projects: core drilling/sampling, exploration (drilling and testing); feasibility studies; geo-scientific, physical surveys; gravity survey; piloting; reconnaissance; research and development activities; seismic survey, and similar activities with no significant earth moving activities etc..			regardless of capacity or area
67.	B.3.j.	Non-metallic mineral processing plants like cement, other cement products, clinker, limestone, sulfur	annual production rate	> 200 MT but < 50,000 MT	≤ 200.0 MT annually AND ≤1.0 MT daily
68.	B.3.k.	Non-metallic mineral processing projects like ceramic industries, manufacture of glass and glass products, manufacture and processing of calcium	annual production rate	> 200 MT but < 70,000 MT	≤ 200.0 MT annually AND ≤1.0 MT daily
	C.	**INFRASTRUCTURE PROJECTS**			
69.	C.1.	**MINOR DAMS**	Reservoir flooded area AND water storage capacity	< 25 hectares AND < 20 million m³	
	C.2.	**MINOR POWER PLANTS (Proc No. 2146 declared types: fossil-fueled, nuclear fueled, hydroelectric or geothermal)**			
70.	C.2.a.	Small power plants	total power production capacity		≤ 1 MW unless specified below
71.	C.2.b.	Fuel Cell	total power production capacity	≥ 5 MW but < 100 MW	< 5 MW
72.	C.2.c.	Gas-fired thermal power plants	total power production capacity	≥ 10.0 MW but < 50.0 MW	< 10.0 MW
73.	C.2.d.	Geothermal facilities	total power production capacity	> 1.0 MW but <50.0 MW	≤ 1 MW
74.	C.2.e.	Hydropower facilities	-	< 20 million cubic meters water impounding capacity	Run-of-river system

Proj Matrix Form 20.5

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
First Set of Group II Projects under similar Project Types as declared in Presidential Proclamation No. 2146						
Project Type				Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold Decision Document	
					Initial Environment Examination[3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report[12] / CNC
75.	C.2.f.	Other thermal power plants (e.g., diesel, bunker, coal, etc.)		total power production capacity	≥ 5.0 MW but < 30.0 MW	< 5.0 MW
76.	C.3.	**MINOR RECLAMATION PROJECTS**		area reclaimed	< 50 hectares	
	C.4.	**MINOR ROADS & BRIDGES**				
77.	C.4.a.	Bridges and viaducts, new construction		length	≥ 80 m but < 10.0 km ◎	Regardless of length for foot bridges; <80 m for other bridges
78.	C.4.b.	Roads, new construction, widening (including RO-RO facilities)		length with no critical slope, OR length with critical slope	≥ 2 km but < 20.0 km, OR ≥ 2 km but < 10.0 km ◎	< 2 km
79.	C.4.c.	Elevated roads, flyover/cloverleaf/ interchanges			Regardless of length and width	
80.	C.4.d.	Tunnels and sub-grade roads and railways		length	< 1.0 km	
81.	C.4.e.	Pedestrian passages			All underpass projects	All overpass projects
	C.5.	**OTHER POWER PLANTS & POWER FACILITIES (not listed in Proclamation No. 2146)**				
82.	C.5.a.	Small power plants	total power production capacity			≤ 1 MW unless specified below
83.	C.5.b.	Power barge	total power production capacity		> 1 MW but < 10 MW ◎	≤ 1 MW
84.	C.5.c.	Power transmission lines	power carrying capacity		≥ 138 KV ◎	
85	C.5.d.	Renewable energy projects such as ocean, solar, wind, tidal power except waste-to-energy and biogas projects)	total power production capacity	≥ 100 MW	≥ 5 MW but < 100 MW	< 5 MW
86.	C.5.e.	Substations/switchyard	power output		> 220 kV ◎	≤ 220kV
87	C.5.f.	Waste-to-energy projects including biogas projects	total power production capacity	≥ 50.0 MW	> 1 MW but < 50 MW	≤ 1 MW
88.	C.5.g.	Wind farms/Wind projects	total power production capacity		≥ 5 MW but < 100 MW ◎	< 5 MW

ProjMatrixForm 20.6

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
Second Set of Group II Projects as defined by DENR-EMB (not included in declared Project Types as Proclamation No. 2146)						
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document		
				Environmental Impact Statement (EIS)	Initial Environment Examination [3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report [12] / CNC
	D.	AGRICULTURE INDUSTRY				
89.	D.1.	Agricultural plantation (e.g. orchards, including rubber plantation)	area to be developed	≥ 1,000 hectares	≥ 100 hectares but < 1,000 hectares	< 100 hectares
90	D.2.	Agricultural processing facilities	annual production rate	≥ 50,000 MT	≥ 5,000 MT but < 50,000 MT	< 5,000 MT
91.	D.3.	Cut-flower industry Projects				regardless of capacity or area
	D.4.	Livestock Production				
92.	D.4.a.	Pigs/Goats (enclosed)	stock population	≥ 5,000 heads	≥ 100 heads but < 5,000 heads ©	< 100 heads
93.	D.4.b.	Poultry/birds [13]	stock population	≥ 100,000 heads	≥ 10,000 heads but < 100,000 heads ©	< 10,000 heads
94	D.4.c.	Rice mill	milling rate		> 1 ton/hr ©	≤ 1 ton/hr
	E.	Buildings, Storage Facilities and Other Structures				
95.	E.1.	Cemetery	area to be developed		≥ 5.0 hectares	< 5.0 hectares
96.	E.2.	Commercial, [Business centers with residential units (mixed use), malls, supermarkets, public markets] ▪ Fast food/Restaurant Projects ▪ Commercial Establishments (i.e. Showrooms)	total/gross floor area including parking and other areas	≥ 2.5 hectare	≥ 1 hectare but <2.5 hectares	< 1 hectare; All other Commercial establishments that sell only non-perishable goods and/or showrooms for motor vehicles and similar products
97.	E.3.	Commercial, [office spaces only] Institutional and other related facilities: religious, government, and educational	total/gross floor area including parking and other areas		≥ 1 hectare	< 1 hectare
98.	E.4.	Facilities for Barangay Micro-Business Enterprises (BMBE) Projects [14]				regardless of capacity or area
99.	E.5.	Family dwellings/apartment type	total/gross floor area including parking and other areas			Regardless of area

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
Second Set of Group II Projects as defined by DENR-EMB (not included in declared Project Types as Proclamation No. 2146)						
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document		
				Environmental Impact Statement (EIS)	Initial Environment Examination [3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report [12] / CNC
100.	E.6.	Funeral parlors, crematorium, columbarium	total/gross floor area including parking and other areas		≥ 1 hectare	<1 hectare
101.	E.7.	Institutional and other related facilities: medical facilities			Primary, Secondary, Tertiary hospitals or Medical Facilities ◎	Clinics (out-patient, health centers, dental clinics) including rural health units
102.	E.8.	Institutional and other structures with laboratory facilities			Regardless of size or area	
103.	E.9.	Motels, Hotels, Condominium/ Apartelles (residential)	total/gross floor area including parking and other areas		≥ 1 hectare	<1 hectare
104.	E.10.	LPG storage and refilling	storage capacity		Regardless of capacity ◎	
105.	E.11.	Refilling station projects/gasoline station projects	storage capacity		≥ 20 kL ◎	< 20 kL
106.	E.12.	Storage of petroleum, petrochemical or related products	storage capacity	≥ 5,000 kL	< 5,000 kL but ≥ 20 kL	< 20 kL
107.	E.13.	Storage facilities, non-toxic/hazardous materials, substances or products	total/gross floor area including parking and other area		≥ 1 hectare	< 1 hectare
108.	E.14.	Storage facilities, toxic or hazardous materials, substances or products	storage capacity	≥ 1,000 MT	≥ 0.1 MT but < 1,000 MT	< 0.1 MT
109.	E.15.	Subdivision and housing projects, resettlement projects, economic and socialized housing project, open market housing and other similar (horizontal) land development projects	total land area, including all common and other areas		Regardless of area ◎	
110.	E.16.	Telecommunication Projects [15]				Regardless of type
	F.	**Chemical Industries (For associated building requirements, refer to Group II E.14/E.15)**				
111.	F.1.	Manufacturing, processing and/or use of substances included in the Priority Chemical List	quantity of toxic chemicals to be used per month	≥ 1.0 MT	> 0.001 MT but < 1.0 MT	≤ 0.001 MT

Proj Matrix Form 20.8

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
Second Setof Group II Projects as defined by DENR-EMB (not included in declared Project Types as Proclamation No. 2146)						
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document		
				Environmental Impact Statement (EIS)	Initial Environment Examination [3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report [12] / CNC
112. .	F.2.	Manufacture of explosives, propellants and industrial gases	daily production rate	≥ 5 MT	> 0.001 MT but < 5 MT	≤ 0.001 MT
113.	F.3.	Manufacture of agri-chemicals and other industrial chemicals not in the PCL	annual production rate	≥ 30,000 MT	> 200 MT but < 30,000 MT	≤ 200 MT annually AND ≤ 1 MT daily
114.	F.4.	Pharmaceutical industries and manufacture of soap and detergents, health and beauty products, and other consumer products.	annual production rate	≥ 50,000 MT	> 200 MT but < 50,000 MT	≤ 200 MT annually AND ≤ 1 MT daily
115.	F.5.	Surface coating industries (paints, pigments, varnishes, lacquers, anti-fouling coating, printing inks)	annual production rate	≥ 30,000 MT	> 200 MT but < 30,000 MT	≤ 200.0 MT annually AND ≤ 1.0 MT daily
116.	G.	**Cottage Industries** [16]				regardless of capacity or area
117.	H.	**Demonstration and Pilot Projects**				regardless of capacity or area
	I.	**Environmental Enhancement and Environmental Mitigation Projects [12] (PD Report required)**				
118.	I.1.	Artificial Reef				regardless of capacity or area
119.	I.2.	Pollution control devices or facilities required under the ECC condition/s of the "main" project/s covered under Groups I or II.				regardless of capacity or area
120.	I.3.	Pollution control devices or similar facilities intended to prevent emissions and/or discharges beyond allowable limits (e.g. for compliance with Clean Air Act or Clean Water Code).				no Groups I and II components wherein thresholds are required an EIS, IEER or IEEC
121.	I.4.	Preventive or proactive measures against potential natural hazards (such as shore protection, river embankment/river bank stabilization, seawall, etc.)				no Groups I and II components wherein thresholds are required an EIS, IEER or IEEC

Proj Matrix Form 20.9

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
Second Set of Group II Projects as defined by DENR-EMB (not included in declared Project Types as Proclamation No. 2146)						
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document		
				Environmental Impact Statement (EIS)	Initial Environment Examination [3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report [12] / CNC
122.	I.s.	Reforestation projects				capacity or area based on the recommendation/s and endorsement of FMB and/or PAWB on a case-to-case basis
	J.	**Food and Related Industries [17]** (For associated building requirements, refer to Group II E.14/E.15)				
123.	J.1.	Animal products processing (fish/meat processing, canning, slaughterhouses, etc.)	daily production rate	≥ 10,000 kg	≥ 500 kg but < 10,000 kg	< 500 kg
124.	J.2.	Coconut processing plants (including production of coconut based products)	monthly production rate	≥ 25,000 MT	< 25,000 MT	
125.	J.3.	Distillation and Fermentation Plants (e.g. bio-ethanol project)	annual production rate	≥ 50,000	< 50,000 MT	
126.	J.4.	Food preservation (e.g., drying, freezing) and other methods aside from canning				Regardless of capacity
127.	J.5.	Fruit and vegetable processing	daily production rate	≥ 500 Kg	< 500 Kg	
128.	J.6.	Leather and related industries	daily processing rate of raw hides		≥ 1 MT	< 1.0 MT
129.	J.7.	Other types of food (and other food by-products, additives, etc.) processing industries	annual production rate of finished product	≥ 50,000 MT	< 50,000 MT	
130.	J.8.	Processing of dairy products	monthly production rate	≥ 100,000 L (liquid) OR ≥ 100,000 Kg (solid)	<100,000 L (liquid) OR < 100,000 Kg (solid)	
131.	J.9.	Sugar Mills	annual production rate	≥ 50,000 MT	< 50,000 MT	
	K.	**Manufacture of Other Products, e.g. Packaging Materials [18]** (For associated building requirements, refer to Group II D.12/D.13)				
132.	K.1.	Glass-based products	annual production rate		≥ 30,000 MT	< 30,000 MT
133.	K.2.	Metal-based products (Including Semi-Conductor/Electronic Industries)	annual production rate		≥ 15,000 MT	< 15,000 MT
134.	K.3.	Paper and plastic-based products	annual production rate		≥ 15,000 MT	< 15,000 MT

Proj Matrix Form 20.10

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
Second Set of Group II Projects as defined by DENR-EMB (not included in declared Project Types as Proclamation No. 2146)						
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document		
				Environmental Impact Statement (EIS)	Initial Environment Examination [3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report [12] / CNC
135.	L.	**Pipeline Projects**				
136.	L.1.	Fuel pipelines	length	≥ 25 km	< 25 km	
137.	L.2.	Other pipelines	length	≥ 50 km	< 50 km	
138.	M.	Service industries which do not emit pollutants except for domestic wastes and occupying a space equal to or less than limits specified in Groups I or II for infrastructure or other applicable project components needed in the service industry. [19]				regardless of capacity or area
	N.	**Textile, Wood, Rubber Industries** (For associated building requirements, refer to Group II E.14/E.15)				
139.	N.1.	Textile, Wood, Rubber Industries [20]	annual production rate	> 50,000 MT	< 50,000 MT	Garment Manufacturing [21] w/o Dyeing and only involves spinning, cutting and sewing
140.	N.2.	Wood and Metal Furniture Assembly [22]				regardless of capacity or area
	O.	**Tourism Industry**				
141.	O.1.	Resorts and other tourism/leisure projects	area to be developed	≥ 25 hectares	> 0.1 hectare but < 25 hectares ©	≤ 0.1 hectare
	P.	**Transport Terminal Facilities**				
142.	P.1.	Airports	functional size	Larger than a private strip		Private airstrips
143.	P.2.	Land transport terminal (for buses, jeepneys and other modes of transportation)	total land area		1 hectare to > 2 hectares ©	< 1 hectare without service facilities
144.	P.3.	Sea port, causeways, and harbors	area to be developed	≥ 15.0 hectares with reclamation OR ≥ 25.0 hectares (w/o reclamation)	< 15.0 hectares reclamation OR < 25.0 hectares (w/o reclamation)	< 1.0 hectares (w/o reclamation)
145.	Q.	**Treasure Hunting Projects** (located in NIPAS areas)			regardless of capacity or area	

Proj Matrix Form 20.11

GROUP II - Non-ECPs in Environmentally Critical Areas (ECAs)						
Second Setof Group II Projects as defined by DENR-EMB (not included in declared Project Types as Proclamation No. 2146)						
Project Type			Project Size Parameter	EIA Report Type for Corresponding Project Size/Threshold / Decision Document		
				Environmental Impact Statement (EIS)	Initial Environment Examination [3] (IEE Report: IEER or IEE Checklist: IEEC) / ECC	Project Description Report [12] / CNC
	R.	**Waste Management Projects**				
146.	R.1.	Compost/fertilizer making	daily production rate		≥ 15 MT ©	< 15 MT
147.	R.2.	Domestic wastewater treatment facility	quantity of waste to be treated annually	≥ 5,000 m³	< 5,000 m³	< 50 m³
148.	R.3.	Hazardous waste treatment, recycling, and/or disposal facilities (for recycling of lead, see details in Group I - Heavy Industries)	quantity of waste to be treated annually	≥ 10.0 MT	< 10.0 MT	
149.	R.4.	Industrial and hospital waste (non-hazardous) materials treatment facilities	quantity of waste to be treated annually	≥ 50 m³	< 50 m³	
150.	R.5.	Landfill for industrial and other wastes	number of users	Multi-users	Single-user	
151.	R.6.	Materials Recovery Facilities	kind of activity		with composting facilities (see category of composting above) ©	material segregation only
152.	R.7.	Receiving facilities, paper, plastic, and other materials recycling	quantity of waste to be treated annually	≥ 300,000 MT	< 300,000 MT OR involving the use of chemicals ©	involve manual or mechanical sorting only
153.	R.8.	Sanitary landfill for domestic wastes only	daily waste input	> 1,000 MT	≤ 1,000 MT ©	
	S.	**Water Supply, Irrigation or Flood Control Projects**				
154.	S.1.	Impounding System or Flood Control Project	reservoir flooded area	≥ 25 hectares	< 25 hectares OR impounded water ≤ 20 million m³ ©	
155.	S.2.	Irrigation System (Distribution System Only)	service area	≥ 1,000 hectares	≥300 hectares but < 1,000 hectares ©	< 300 hectares
156.	S.3.	Water Supply Systems (Complete System)	number of production wells	> 6 wells and other systems (e.g. infiltration gallery, etc.)	≤ 6 wells	
157.	S.4.	Water Supply System (Distribution Only)	distribution supply level		Level III – with household connection and water treatment	Level II – communal faucet and Level I – deep wells
158.	T.	**Wildlife Farming or any related projects [23] as defined by PAWB**			regardless of area	butterfly farming

ProjMatrixForm 20.12

GROUP III - Non-Environmentally Critical Projects in Non-Environmentally Critical Areas (NECPs in NECAs) - non-covered projects		
	A.	All Group II Project Types in NECA : PDR required to be submitted for Enhancement and Mitigation Projects as basis for confirmation of benign nature of proposed activity, and CNC is required to be secured. All other projects shall be at the option of the Proponent to prepare a PDR as basis for a CNC, should the Proponent opt to secure one.

GROUP IV - CO-LOCATED PROJECTS [1]		
159.	A.	Co-located projects (mix of single projects in a contiguous area optionally applied as one project under one area/zone administrator) shall be automatically required a Programmatic EIS regardless of capacity, area and number of locators/components.

GROUP V – UNCLASSIFIED PROJECTS		
All Unclassified Projects shall submit a Project Description as an interim documentary requirement. Unclassified Projects may be covered or non-covered by the EIS System subject to DENR-EMB Review of a Project Description. The outcome of review shall be a recommendation on the final EIA Report Type to be submitted as basis for issuing a CNC or ECC.		
		Project Type required to submit a Project Description Report (PDR)
160.	A.	Projects using new processes/technologies with uncertain impacts
161.	B.	All other projects not listed in **Groups I, II, III and IV**

ProjMatrixForm 20.13

PROJECT GROUPING MATRIX FOR DETERMINATION OF EIA REPORT TYPE
NEW SINGLE & CO-LOCATED PROJECTS
ENDNOTES TO ANNEX 2-1B

1.Single Projects may be an individual project listed in this Annex 2-1b, or a multi-component project applied as a single
project under one (1) ownership or proponent, i.e. combination of related individual projects needed to support the main project being applied for, e.g. a nickel mining project with components comprised of road network, bridge, port/causeway, buildings, and power plant. max threshold among project components will apply.
Single Projects may also include individual projects of locators within an economic or industrial zone or park, opting to apply for individual ECCs. However, if the administrator of the zone, park or any integrated development within a defined
contiguous area adopts the option to apply for one (1) ECC for the entire program of development within such contiguous
area, the group of projects shall be collectively called **"Co-located Projects"** which shall then be required a **Programmatic EIS**.
2.Per**NECP Office Circular No. 3 of 1983,** and updated by EMB with DTI concurrence on 06 July 2004 as authorized by
Sections 2-D and 3-A of AO 42 issued on 02 November 2002 by the President of the Philippines.
3.The IEE documentary requirement may either be an IEE Report (outline presented in Annex 2-15) or an IEE Checklist.
DENR-EMB requires the usage of the 28 checklists available at the EMB offices or downloadable from the EMB website.
These are marked with © superscript in the IEE columns for Project Groups I and II.
4.Iron and steel mills refer to the organized and coordinated arrangement of manufacturing processes designed to prepare or smelt or process iron ores, steel scraps and/or primary iron and steel mill products into marketable products except when process involves reheating or resizing only.
5.Non-ferrous metal industries refer to the organized and coordinated arrangement of manufacturing processes designed to prepare smelt or process non-ferrous metals into marketable products. This shall include projects characterized by any of the following specification: a) classified as large industrial plants under the implementation rules of LOI No 950 and b) will process toxic non-ferrous metals such as cadmium, chromium and lead.
6.Petroleum/Petrochemical Industries shall refer to the organized and coordinated arrangement of manufacturing processes designed to physically and/or chemically transform petroleum and its derivatives into marketable products. Projects listed in this grouping with thresholds > 5,000 MT shall be covered by Level 1 or Level 2 ERA requirement, as appropriate. Refer to ERA guidelines in Annex 2-7e.
7.Smelting plant projects shall refer to the organized and coordinated arrangement of manufacturing processes designed
to smelt metals or alloys and cast the same into some special form.
8.Dikes for/and Fishpond Development Projects shall refer to natural or artificial water impoundment involving dike construction and harvesting the same as marketable size and quantities.
9.Processing shall be done at the EMB Regional Office, however **approval will be at the EMB Central Office** for **logging**
projects involving cutting of trees equal to or greater than 5,000 cubic meters and for wood processing with greater than 4,000 cum if equivalent product per year, per Dec. 13, 2006 DENR Secretary Memorandum Circular.
10.Grazing Projects shall refer to the management of forest range resources for forage productivity needed to support livestock production. Exceedance of the natural grazing capacity of 1 head /hectare is considered critical as specified in MNR AO No. 50 (1982).
11. The reckoning of "**commercial extraction**" of onshore and offshore oil & gas projects shall be after DOE's approval of the
Service Contractor's Declaration of Commerciality.
12.Project Description Report (PDR) is at the option of the Proponent to apply as the basis for its request for the issuance
of a Certificate of Non-Coverage (CNC), except for enhancement and mitigation projects wherein the PDR is a requirement for EMB to confirm the benign nature of the proposed activity, as basis for the issuance of a CNC. It is the ministerial duty of the DENR-EMB to issue a CNC for projects confirmed to be non-covered. A final PDR threshold grouping means a project is not covered and outside the purview of the PEISS, thus, is not required to secure an ECC or
a CNC. A PDR for Group II and III projects automatically results to an issuance of a CNC except when there are subcomponents
with EIS/IEE thresholds, which then results to a recommendation to regroup the project to its proper group
and corresponding EIA Report type. A PDR for Group V projects is a transitory document. The final decision document may be a CNC or an ECC depending on the validated threshold and significance of aspects.

PROJECT GROUPING MATRIX FOR DETERMINATION OF EIA REPORT TYPE
NEW SINGLE & CO-LOCATED PROJECTS

13.Poultry/birds covers all avian species regardless whether these are ostrich, quails, ducks or fighting cocks, while the
term head of pigs refer to individual heads of pigs not the sow level.
14.Facilities for Barangay Micro-Business Enterprises (BMBE) Projects as defined by R.A. 9178 including similarlyscaled
projects with less than PhP 3.0 million capitalization involving only assembly of components, molding, sculpturing, cutting, sewing, knitting, weaving, briquetting and carpentry works.
15.Telecommunication Projects - Including **a)** broadcasting towers, monopole/guyed towers, three and four-legged selfsupporting
towers and other similar structures; **b)** Indoor Antennae; c) Based Transceiver Station (refers to equipment housing only and does not involve installation of a tower, based transceiver station antenna without equipment room or tower, and based transceiver station mounted on any existing structures; **d)** On top of a building (Mounted on a Building)
wall mounted and floor mounted; **e)** Pole and Parapet Mounted Antennae; **f)** MonopoleTower. Structural integrity of telecommunication and broadcasting towers, including similar structures, is deemed to be under the jurisdiction of the LGUs (in line with the building code requirements). And, radiation concerns are deemed to be under the jurisdiction of DOH.
16.Cottage Industries - manufacture of stuffed toys, handicraft, souvenir items, decorative accessories, paper boxes, rope,
twines, throw pillow, etc. that do not generate toxic or hazardous materials and/or strong/highly, pollutive wastes: abaca trays, bags, belts; baseboards, baskets; beads, bird cage; blinds; boat shelves; bone products; candle; ceramics; chandeliers, Christmas ornaments; cloth hat; cords, decorative accessories; decorative angels decorative flowers or ornamental; decorative statues; doll house, fashion accessories; flower pots; food bowl; fossil stones; fruit bowls; garden
accents; gift wares; hemp nets; hand painted terracotta; handcrafted carabao horns; handicrafts; house wares; jewelry case, key holder; laces; lamp base; lighting fixtures; lightning accessories, other ; mini airplanes; mirror frames; molding frames; native fiber décor; nativity cards; paper boxes, paper mache; pencil case, porcelain and fiberglass items; religious
decors; ribbons, rope, salad server; shell furniture; shirt printing; shoes; souvenir items; stainless steel kitchen equipment;
stretcher; throw pillow; topiaries; torcher floor lamps; toys and stuffed toys; twines; vases, wall decors; wallet; wheel chairs, wine caddies, wire decors; wooden antiques; wooden hand painted cabinets; wooden mini boats.
17.Food and Related Industries – shall refer to the organized and coordinated arrangement of manufacturing processes
designed to produce food, food by-products and beverages from various raw materials sources into marketable goods. The following projects or undertaking falls under this category: sugar mills, distillation and fermentation plants, fruit and vegetable processing, processing of dairy products, Animal products processing (fish/meat processing, canning, slaughterhouses, etc.), food preservation (e.g., drying, freezing) and other methods aside from canning, Leather tanning and related industries, Gelatin, adhesives and other food by-products processing plants, coconut processing plants, and other types of food processing industries.
18.Manufacture of Other Products, e.g. Packaging Materials shall refer to the organized and coordinated arrangement
of manufacturing processes designed to produce paper, plastics, glass and metal-based packaging materials and other marketable products from various raw material sources using molding, heating and other mechanical processes only.
19.Service industry is defined as the sector of economy that supplies the needs of consumers but produces no tangible
goods. Examples include information technology services, vehicle emission testing centers, consultancy services, broker-forwarding business, sea and air freight services, importation or purchase of equipment, containerized shipping services, trucking, banks, lending institutions, telecommunications and broadcasting towers, trading (of securities, stocks, etc.) business and similar activities.
20.Textile, Wood and Rubber Industries –shall refer to the organized and coordinated arrangement of manufacturing processes designed to produce marketable products and secondary raw materials from fibers, woods, rubber, paper and
similar materials.
21.Garment Manufacturing includes production of apron; blouses; bottle cover; cardigan for ladies and children; carpets
and rugs; children garments; coin purse; crochet slipper and shoes; dresses; embroidered kitchen linens and table tops; face towel; hand woven embroidered piña barong; hats; knit tops; knitted sweaters; knitting pullover; leather gloves; mats; napkin rings; napkin; oven mittens; panel curtains; pants; pillowcase; placemats; pot holder; shirts; skirts and overall; sweatshirts; table cloth; table linens; table runner; telephone cover; trousers.
22.Wood and Metal Furniture Assembly (antique reproduction, buri furniture; dinning sets; iron chairs and tables; iron frames; rattan furniture; sala set; tables and chairs; and similar projects).
23.Wildlife Farming - Establishments or facilities for wildlife farming, protection, conservation, commercial purposes.

SP SocPrepForm 21

ENVIRONMENTAL MANAGEMENT PLAN
(For Non-Covered Sub-project)

Name of sub-project: _____
Description of the sub-project: _____
Location:_____
Estimated sub-project Cost: _____

Pre-Implementation stage			
Implementation Stage			
Post Implementation Stage			

Prepared by: _____
BSPMC/PPT
Date: _____

Reviewed by: _____
Barangay Chairperson
Date: _____

Noted: _____
DAC / Municipal Engineer
Date: _____

SPIForm 21.1

ENVIRONMENTAL MANAGEMENT MONITORING REPORT

For the Month of _____ CY 20____

Name of sub-project: _____

Description of the sub-project: _____

Location:
_____

SPI Stage / Activities Conducted	Negative Impact Observed	Mitigating Actions Undertaken	Result / Remarks

Issue/s arises during the period:_____
_____

Agreed action by the community: _____

_____

_____

Prepared by:

_____
BSPMC

Reviewed by:

_____
Community Facilitator

Concurred:

_____
Municipal Engineer

_____
Deputy Area Coordinator

SPI Form 22

ENVIRONMENTAL & SOCIAL SAFEGUARD AUDIT TOOL

Name of Sub-Project						
Physical Target						
Sub-project Classification *(Specify if: Public Goods, Enterprise, & Human Resource Development)*						
Barangay						
Municipality						
Province						
Region						
No. of Times of Audit (i.e. 1st audit), specify the quarter - date						
Parameters	**Objective**	**Yes**	**No**	**Points**	**Rating**	**Remarks/Observations**
Environmental Safeguard						
1. Environmental Safeguard Checklist	Transparency Accountability					
On-file @ BSPMC				2		
Properly filled-up				2		
CVs understood the process				2		
2. Environmental Management Plan (EMP) for non-covered SP	Transparency Accountability					
On-file				2		
Properly filled-up				2		
CVs understood the process				2		
Community Participation				2		
3. *Environmental Compliance Certificate (ECC) or Certificate of Non-Coverage (CNC) on file (for covered SP)*	Transparency Accountability Empowerment	**If not applicable to SP, points to be equally distributed to Item No. 4; EMP**				
On-file				2		
Properly filled-up				2		
CVs understood the process				2		
Community Participation				2		

4. Monthly Environmental Management Plan	Transparency Accountability Empowerment					
On-file @ BSPMC				2		
Parameters	**Objective**	**Yes**	**No**	**Points**	**Rating**	**Remarks/Observations**
Properly filled-up	Transparency Accountability Empowerment			3		
CVs understood the process				3		
Community Participation				3		
5. Environmental Impact	Transparency Accountability Empowerment					
Properly identified				2		
Mitigating measures				5		
Mitigating measures done according as to planned				5		
Monitoring of action done as planned				5		
			Sub-total	***50***		
Social Safeguard						
1. *Property Rights*	Transparency Accountability Empowerment					
1.1. On-file @ BSPMC				1		
1.2. Identification of acquisition form				1		
1.3. Form of acquisition/compensation				1		
1.4. Acceptability of acquisition/compensation among affected parties				1		
1.5. Legal documents **properly notarized and annotated to ROD.**				1		
2. Dislocation or displacement	Transparency Accountability Empowerment					
2.1. Identification of list				1		
2.2. Mitigating measures				1		
2.3. Acceptability to all parties involved				1		
2.4. Implemented as planned				1		
3. Local employment	Transparency Accountability Empowerment					
3.1. Local residents employed				1		
3.2. Adequately compensated				1		
3.3. Compensated on-time				1		
3.4. Equitable compensation on men & women				1		

4. *Safety at work*	Accountability Empowerment					
4.1. Safety plan discussed				1		
4.2. Safety plan implemented				1		
Parameters	**Objective**	**Yes**	**No**	**Points**	**Rating**	**Remarks/Observations**
4.3. Workers provided with safety equipment	Accountability Empowerment			1		
4.4. Occurrence of work related accidents				1		
4.5. Handling of accident cases				1		
5. *Cleanliness & Sanitation*	Transparency Empowerment					
5.1. Cleanliness & sanitation discussed				1		
5.2. Designation of storage & waste area				1		
5.3. Proper waste disposal				1		
5.4. Designation of cleanliness focal person				1		
6. Adverse effect	Transparency Empowerment					
6.1. Sectors adversely affected by the Project				2		
• Indigenous People (IPs)						
• Women's Sector						
• Elderly persons						
• Children						
• Person w/disabilities						
• Others (pls. specify): _____						
6.2. Adverse effect discussed & planned				2		
6.3. Secured Free & Prior Informed Consent (FPIC)				2		
6.4. Mitigating measures planned				2		
6.5. Acceptability to all parties involved				2		
6.6. Implemented mitigating measures as planned				2		

7. Participation of vulnerable groups	Transparency Empowerment			3		
7.1. Identification of vulnerable groups participated						
• Indigenous People (IPs)						
• Women's Sector						
• Elderly persons						
• Children						
Parameters		**Yes**	**No**	**Points**	**Rating**	**Remarks/Observations**
• Person w/disabilities	Transparency Accountability Empowerment					
• Others (pls. specify): _____						
7.2 Level of Participation				3		
• Pre-construction stage						
• Construction stage						
• Post construction stage						
8. Conflict Management	Accountability Empowerment Transparency					
8.1. Identification of conflict				1		
8.2. Mechanism of handling conflict				1		
8.3. Resolved conflict				1		
8.4. Acceptability of conflict to all parties involved				1		
9. Public information	Accountability Empowerment Transparency					
9.1. Signboard				3		
• Visibility						
• Project/content information						
• Finance information						
• Timeline information						
• Updated information						
9.2 BSPMC Bulletin board				3		
• Visibility						
• Finance information						
• Timeline information/activities						
• Updated information						

Sub-total	***50***		
Over-All Rating	***100***		

Overall Observation and Recommendation: (Use additional sheet/s, if necessary)

Rating (Per Aspect: Environmental & Social)
90 – 100 = ***Very Good***
80 – 89 = ***Good***
60 – 79 = ***Fair***
Less than 60 = ***Bad/Poor***

Conducted by:

_____
Name and signature

Date : _____

Conformed:

_____
Name & signature

Date : _____

SPI Form 22.1

Environmental and Social Safeguard Action Plan Matrix

Observations/Findings	Activities to be undertaken	Time Frame	Responsible Person/s	Remarks

Note: Use separate sheets for each aspect (environmental & social. This should be accomplished in triplicate (1 copy – Proponents, 1 copy – Evaluator, 1 copy – Regional Office) and use additional sheet/s if necessary.

Prepared by:

_____
Name & signature

Date: _____

Conformed:

_____
Name & signature

Date: _____

Noted by:

_____
Name & signature

Date: _____

GUIDELINES FOR THE CONDUCT OF ENVIRONMENTAL & SOCIAL SAFEGUARD AUDIT TOOL

The Enhanced Environmental and Social Safeguard Audit tool aims to check and validate the environmental and social safeguard compliance and to improve and promote the environmental and social awareness of the proponent. This tool was designed on a community-based level of questions to easily guide the evaluator and as well as the respondent on responding appropriately on each questions. The audit tool is rated by point system that corresponds to each question on their specific weight and of valuable importance.

The Audit Tool is composed of three (3) parts; Part I – Site & Physical Validation of the Sub-Project; Part II – Environmental Safeguard Scoring Checklist; and Part III – Social Safeguard Scoring Checklist. During the conduct of audit, the evaluator should convene the respondent composed of the following: BSPMC, volunteers, PIT, and O&M group. Here are the following guidelines on conducting and using the audit tool:

Part I – Site & Physical Validation of the Sub-Project

For the Evaluator

a) Convene the proponent/respondent on the objective, importance, and procedure on the conduct of the audit. This will set the tone on the value of the audit for the project and the proponent/respondent as well.
b) Ask for all the documents on (i.e. plans & specifications, safeguard checklist, EMP) prior to conduct of the site & physical validation.
c) Perform the site & physical validation.
d) Take note of any observations you see on site vis' a vis the proponent's/respondent's submitted documents.

Part II & III – Environmental & Social Safeguard Scoring Checklist

For the Evaluator

The scoring system will be based on the evaluator's own judgment even though each item has its own corresponding point. Note that there are items that may not be applicable based on the identified sub-projects' classification, skip the said items and proceed to items that you think will be applicable.

To get the overall rating, total the score per aspect and divide it by the perfect score and multiply by 100%, this will now be the rating. Example: In Environmental Safeguard, the rating is 40. So, 40/50 (perfect score) = 0.80 x 100% = 80%. Thus, the audit score is 80% which is equivalent to ***Good Rating***.

Environmental Safeguard Scoring

1) Environmental Safeguard Checklist, rate the following according to:

2 points – if the checklist is on-file, otherwise the score is 0.

2 points – if the checklist is properly filled-up by checking the content was appropriately answered, otherwise the score is 0.

2 points – if the checklists was done and fully understood by the proponents/respondents, otherwise the score is 0.

2) Environmental Management Plan (EMP) for non-covered sub-projects, rate the following according to:

2.1 2 points – if the EMP is on file, otherwise the score is 0.
2.2 2 points – if the EMP is properly filled-up by checking the content was appropriately answered , otherwise the score is 0
2.3 2 points – if the EMP is fully understood by checking the awareness of the proponents/respondents on the process on making the EMP, otherwise the score is 0.

2.4 2 points – If the EMP was done by the proponents/respondents, otherwise the score is 0.

3) Environmental Compliance Certificate or Certificate of Non-coverage (CNC) for covered sub-projects, rate according to the following:

3.1 2 points – if the ECC or CNC is on file or prior application is made to DENR-EMB, otherwise the score is 0.

3.2 2 points – if the ECC or CNC application is properly filled-up according to instructions, otherwise the score is 0.

3.3 2 points – the ECC or CNC is fully understood by the proponents/respondents as to the limitations of the said compliance certificate.

3.4 2 points – if the ECC or CNC application preparation was participated in by the proponents/respondents, otherwise the score is 0.

4) Monthly Environment Plan Report, rate the following according to:

4.1 2 points – if the Monthly Environment Plan Report is on file, otherwise the score is 0.

4.2 3 points – if the Monthly Environment Plan Report was properly filled-up and answered as to content of the report, otherwise the score is 0.

4.3 3 points – if the Monthly Environment Plan Report was fully understood and awareness of the proponents/respondents, otherwise the score is 0.

4.4 3 points – if the Monthly Environment Plan Report was prepared by the proponents/respondents, otherwise the score is 0.

5) Environmental Impact, rate the following according to:

5.1 2 points – if the environmental impact is properly identified as to sub-project type, however, if there are none identified environmental impact the score is automatically 2 points, otherwise the score is 0.

5.2 5 points – if there are mitigating measures plan for the impact and that it is applicable to sub-project type. However, if there are none identified environmental impact the score is automatically 2 points, otherwise the score is 0.

5.3 5 points – if there are mitigating measures done according to planned, otherwise the score is 0.

5.4 5 points – if the are mitigating measures, ensure that it is being monitored to ensure that it was done accordingly. However, if there are none identified environmental impact the score is automatically 2 points, otherwise the score is 0.

Social Safeguard Scoring

1) Property Rights, rate the following according to:

1.1 1 point – if the property right is on file, otherwise the score is 0.

1.2 1 point – if the property right was properly identified (i.e. ROW) based on the presented documents, otherwise the score is 0.

1.3 1 point – if the property right identified and established form of property acquisition/compensation, otherwise the score is 0.

1.4 1 point – if the property right acquired was done in accordance to existing legal procedures and was acceptable, otherwise the score is 0.

1.5 1 point – if the property right acquired is supported by legal documents, otherwise the score is 0.

2) Dislocation or displacement, rate according to the following:

2.1 1 point – if the dislocation or displacement was identified and documented properly. However, if there are no dislocations or displacement the score is automatically 1 point, otherwise the score is 0.

2.2 1 point – if there is dislocation or displacement identified, there should be mitigating measures planned. However, if there are no dislocations or displacement the score is automatically 1 point, otherwise the score is 0.

2.3 1 point – if there is dislocation or displacement identified, check if it is documented properly and acceptable to all parties involved. However if there are no dislocation or displacement the score is automatically 1 point, otherwise the score is 0.

2.4 1 point – if there is dislocation or displacement identified, check if the agreed terms were done according to mitigating measures planned. However if there are no dislocation or displacement the score is automatically 1 point, otherwise the score is 0.

3) Local Employment, rate according to the following:
   - 3.1 1 point – if the are local residents hired, otherwise the score is 0.
   - 3.2 1 point – if there are local residents hired, check if they are adequately compensated based on prevailing minimum wage, otherwise the score is 0.
   - 3.3 1 point – if there are local residents hired, check if they are compensated on-time as agreed before project's implementation, otherwise the score is 0.
   - 3.4 1 point – if there are local residents hired, check if workers are identified and have equitable compensation for men & women based on documents presented, otherwise the score is 0.

4) Safety at work, rate the following according to:
   - 4.1 1 point – if there are safety plan discussed during the pre-construction workshop, otherwise the score is 0.
   - 4.2 1 point – if there are safety plan implemented as to planned, otherwise the score is 0.
   - 4.3 1 point – if workers were provided with safety equipment, otherwise the score is 0.
   - 4.4 1 point – if there are no identified work related accidents, otherwise the score is 0.
   - 4.5 1 point – if there are identified work related accidents, check if it is properly documented and handling of the emergency situation, otherwise the score is 0.

5) Cleanliness, rate the following according to:
   - 5.1 1 point – if there are safety plan discussed during the pre-construction workshop, otherwise the score is 0.
   - 5.2 1 point – if there are identified designated area for storage and waste area, otherwise the score is 0.
   - 5.3 1 point – if workers were informed on proper waste disposal, otherwise the score is 0.
   - 5.4 1 point – if there is a designated cleanliness focal person, otherwise the score is 0.

6) Adverse effect, rate the following according to:
   - 6.1 2 points – if there are no vulnerable sectors affected, otherwise the score is 0.
   - 6.2 2 point – if there are adverse effects on vulnerable sectors, check if it discussed and planned according to documents presented, otherwise the score is 0.
   - 6.3 2 points – if there are vulnerable sectors affected, there should be Free & Prior Informed Consent (FPIC) among the affected parties and check if there is an available document, otherwise the score is 0.
   - 6.4 2 points – if there are vulnerable sectors affected, check if there are mitigating measures planned and this should be properly documented, otherwise the score is 0.
   - 6.5 2 points – if there are vulnerable sectors affected, check if there is an available document that will proved the acceptance of agreed terms of parties involved, otherwise the score is 0.
   - 6.6 2 points – if there are mitigating measures check if it is implemented in accordance with the planned, otherwise the score is 0.

7) Participation of vulnerable groups, rate the following according to:
   - 7.1 3 points – if there are identified vulnerable sectors participation, otherwise the score is 0.
   - 7.2 3 points – same as 7.1 so the score is automatically 3 points, otherwise the score is 0.

8) Conflict Management, rate the following according to:
   8.1 1 point – if there are no identified conflict on project implementation, otherwise the score is 0.
   8.2 1 point – if there are an available mechanism on handling conflict, otherwise the score is 0.
   8.3 1 point – if there are identified conflict, check if it is properly documented, otherwise the score is 0.
   8.4 1 point – same as 8.3 so the score is automatically 1 point, otherwise the score is 0.

9) Public information, rate the following according to:
   9.1 3 points – if there is a visible signboard and content is in accordance with KC standard information, otherwise the score is 0.
   9.2 3 points – if there is a BSPMC Bulletin Board available at the BSPMC office and the content is in accordance with KC standard information, otherwise the score is 0.

Note: This has to be administered in about 10% of current phases and cycles operating for the year.

For hand –over municipalities, regions has the options on how many will they commit depending on the number of completed sub- projects.

Conduct of exit meeting

Materials needed:

Kraft / manila paper
Masking tape
Marker

For the Evaluator:

1. Prepare the materials for presentation.
2. Immediately after the audit, convene the proponents/respondents.
3. Copy the content of the action plan matrix and list down all the observations/findings in the Kraft paper. Present first the result of the audit and the over-all rating, after which explain how the action plan matrix should be answered and cite some sample.
4. After presentation, give a copy of the action plan matrix to the proponents and give them 15-20 minutes to convene so that they could come up with a valid action plan.
5. After 20 minutes, ask volunteers to present their action plan matrix.
6. When the presentation is over, adjourn the meeting and remind the proponents that the action plan they have accomplished should be implemented as soon as possible and closely monitored by each responsible person/s that they assigned.

Sample of Tariff Derivation (for PWS Level II pump-driven)

Brgy. _____, Municipality of _____

Procedures:

I. Determine the monthly consumption

A. determine the total number of consumers (HH fetching water at the system)

i. Number of HH x average number of people/HH x factor for projected population

= 109 HH x 6 x 1.15 (projected growth rate of 3% for 5 years)

= 752 persons

ii. Compute for the daily demand

= 752 persons x 100 lpcd (anticipate level III consumption rate)

= 75,200 liters/day

= 75.20 cu.m/day

iii. Compute the monthly consumption in cu.m/month

= 75.20 cu.m/day x 30 days/month

= 2,256 cu.m/month

II. Determine the agreed operating expenses

Power consumption and cost derivations:

Budget Item		Factors and derivation
i. total consumption	=	2,256 cu.m/month
ii. Pump model (*CR 5-8 w/ 5.7 cu.m/hr capacity*)	=	2,256 cu.m/month /5.7 cu.m/hr
	total =	395.79 hrs/month
III. total KW hr/month	=	(3 HP x 0.746 kw/hp) x 395.79 hrs
	Total =	885.78 KW-hr / month
iv. prevailing power rates	=	Php6.55 KW-hr (depends on the locality)
v. estimated electric bill/month	=	Php5,801.86 / month

Operating and administrative costs:

Budget Item		Budgetary Requirement
i. Maintenance crew/Caretaker	=	P1,000.00 / month
ii. Meter reader	=	P 500.00 / month
iii. Treasurer	=	P 500.00 / month
iv. Office supplies	=	P 200.00 / month
v. Repair & Maintenance (25%)	=	P1, 250.00 / month
vi. Electrical bill	=	P5,801.86 / month
Total	=	P9,251.86 / month

III. Determine the depreciation cost (Material cost)

A. Compute depreciation cost of system. Assume cost at P100,000 (e.g. pump, pipes) [37]

[37] For purposes of presentation and easy calculation, P100,000 was used as an investment cost.

BUDGET ITEMS	1ST YR (IR .1%)	2ND YR (IR .2%)	3RD YR (IR .3%)	4TH YR (IR .4%)	5TH YR (IR .5%)
Annual Water Consumption in cu.m.	27,072	27,072	27,072	27,072	27,072
Annual Material Depreciation Cost (100,000.00) MC	110,000	120,000	130,000	140,000	150,000
Dep. Cost per cu.m.	4.06	4.43	4.80	5.17	5.54
Average depreciation cost per cu.m.					4.80

IV. Compute for Tariff:

Compute the annual water consumption in cu.m:

Monthly consumption x 12 = 2,256 x 12 ;

= 27,072 cu.m

Compute annual operating cost per cu.m:

P9,251.86 / month x 12 = P111,022.32

Divide annual consumption = P111,022.32 / 27,072

= P4.10 / cu.m

Depreciation cost per cu.m: = P4.80 / cu.m

Add all costs per cu.m = P4.10 + 4.80

= P8.90

Add 10% revenue (as may agree by the Association)

8.90 x 0.10 = P.89

Add all costs = P8.90 + 0.89

= P9.79

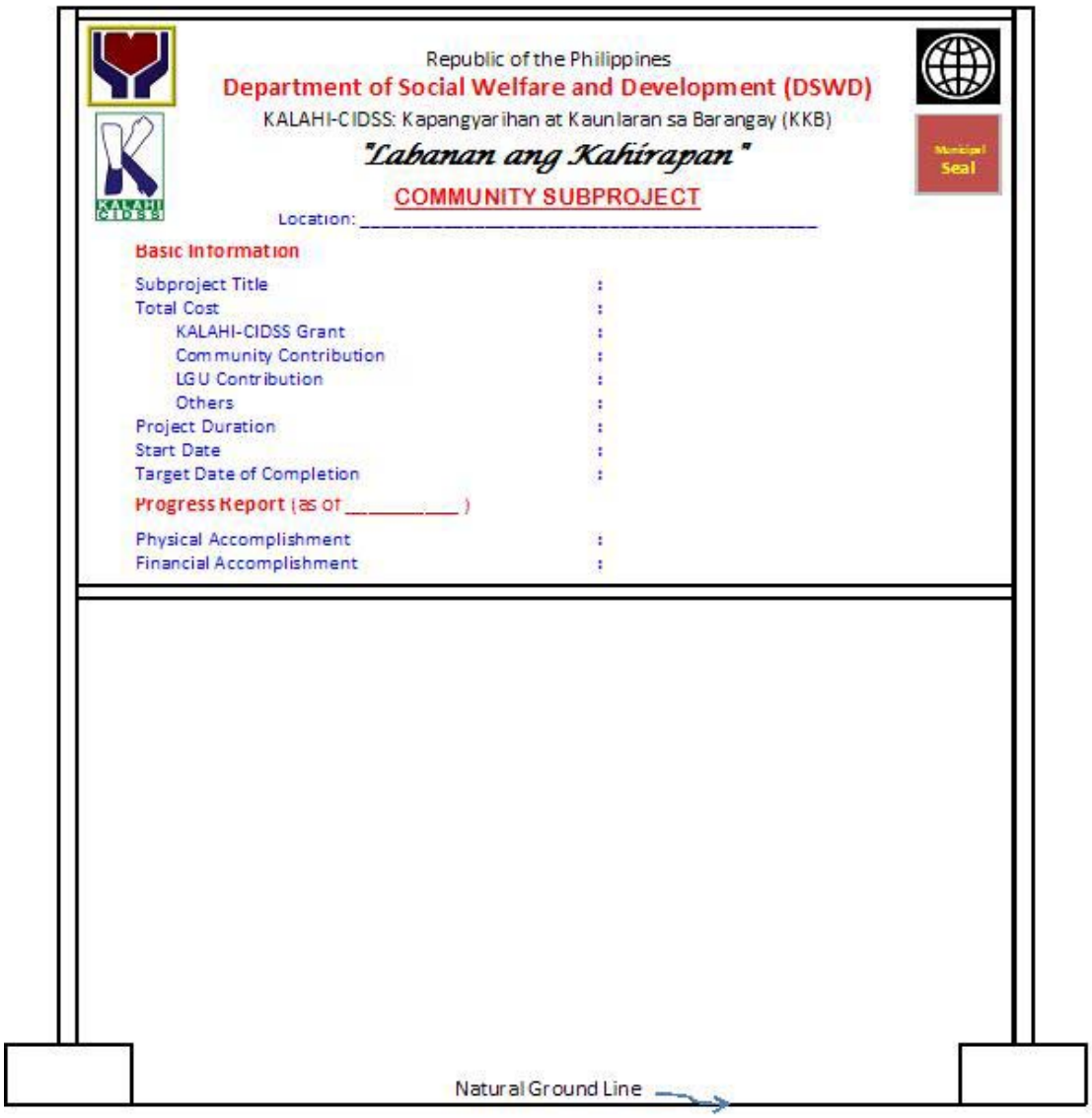
= **say Php10.00 per cu.m**

Antiquity

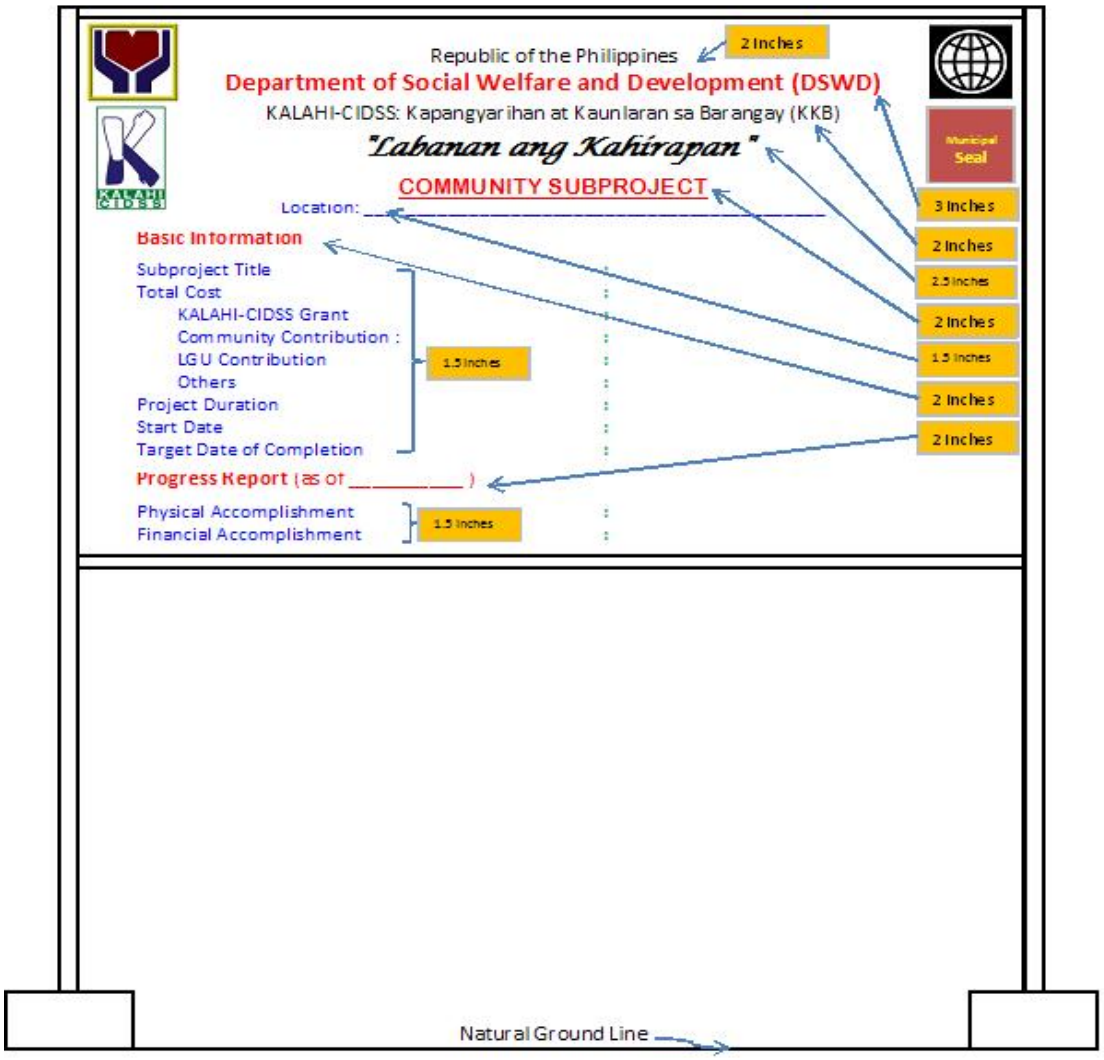
For purposes of presentation and easy calculation, P100,000 was used as an investment cost.

SPI Form 24

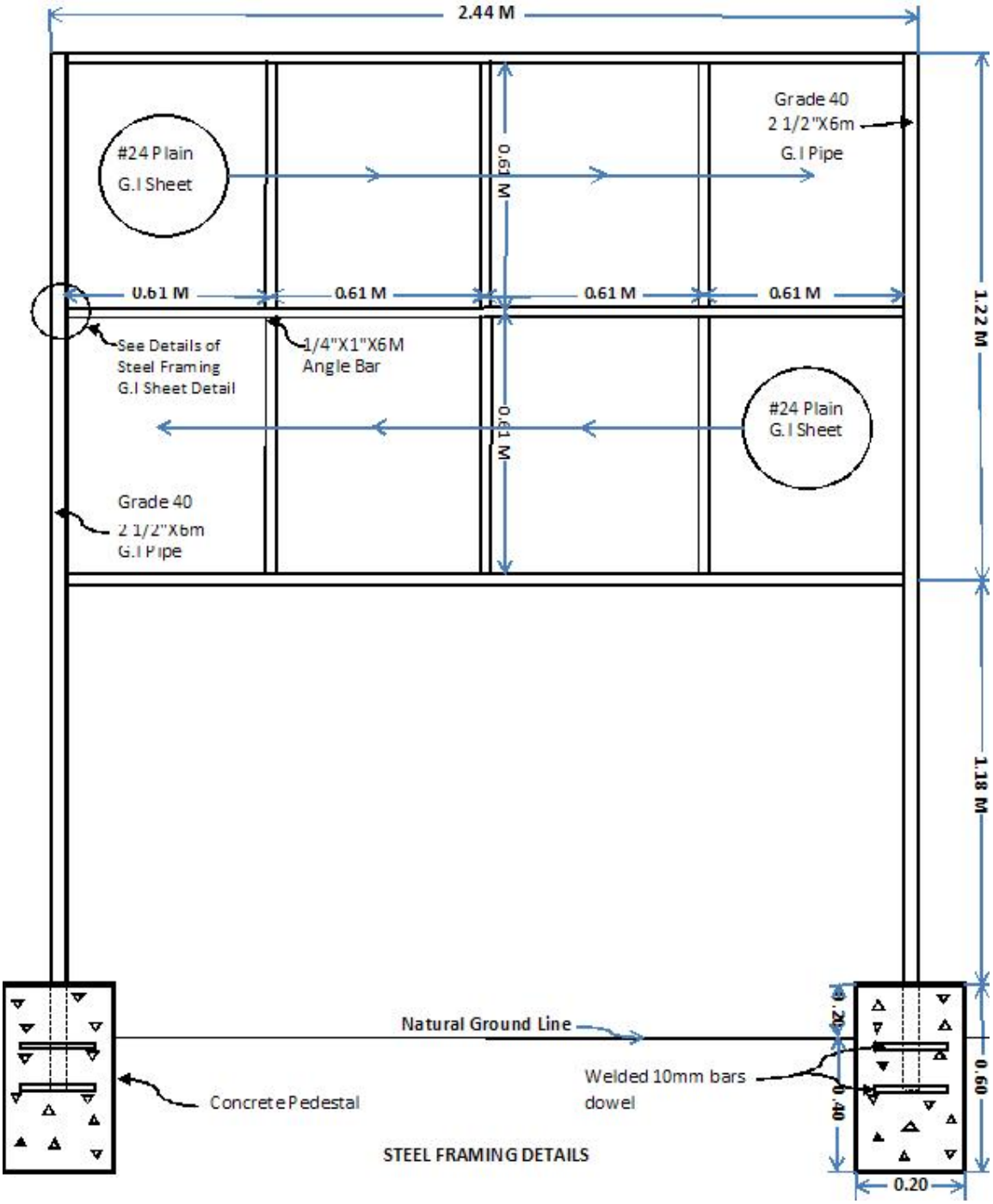
Community Sub-project Signboard



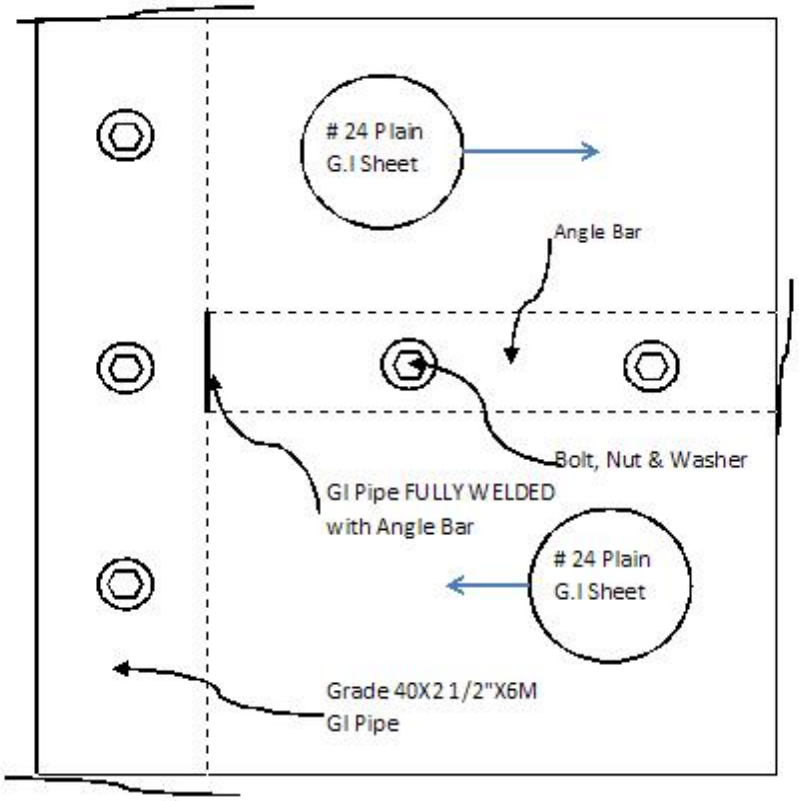
FRONT ELEVATION



TEXT SIZE DETAILS



STEEL FRAMING DETAILS



STEEL FRAMING G.I SHEET DETAILS

COACHING MODULE FOR DAC/ME ON QUALITY ASSURANCE AND QUALITY CONTROL

Sub-project Selection, Planning and Design, Supervision and Monitoring

SESSION AND FACILITATION GUIDE:

Purpose and Objectives:	To ensure that proposed sub-projects are responsive to the identified need or problem/s, of the communities, e.g., it is implemented within the acceptable standards and engineering practices, Project's cost parameters, and within the capacity of the community to implement. The specific objectives of the coaching session are: - Re-orient the municipal technical staff on project policies and requirements regarding sub-project identification, planning, design, supervision and monitoring; - To augment existing knowledge on design and planning for selected types of SPs; - To ensure that technical plans, proposal are within project parameters and agreed on systems of reviews and monitoring to ensure quality; - To impart additional learning regarding supervision and implementation of rural infrastructures. - To develop a guide and checklist on the minimum requirements in establishing a system of review, supervision and monitoring.
Target Participants:	New and/or replacement Rural Community Infrastructure Engineers Deputy Regional Infrastructure Engineers Deputy Area Coordinators Municipal Engineer/s
Duration:	
Methodology:	▪ Review of documents (Guided reading) ▪ Peer-to-peer learning/sharing ▪ Hands-on review of plans and POWs on selected SPs ▪ Slide show on project implementation of different project types
Resources and materials needed:	▪ Project's Infrastructure Manual ▪ CEAC Manual (Chapter 3) ▪ CDD document (Chapter 9) ▪ PHRD developed manuals ▪ WB Aide Memoires ▪ Compilation of Project policies and agreements ▪ Established regional cost parameters (Approved and actual costs) ▪ Project pro-forma forms (i.e POW, PCCP, etc) ▪ Powerpoint presentation materials ▪ Laptop/desktop computer and LCD ▪ White board and markers ▪ Writing pads or notebooks ▪ Meta-cards and manila papers

Expected Outputs:	At the end of the coaching session, the participants will: ▪ Develop awareness and be equipped with additional knowledge on the design considerations and understanding of appropriate technology for rural infrastructure ▪ Assimilate / Imbibe the project's requirements and policies regarding observance of cost parameters and compliance to the review system ▪ Enhance his/her skills on quality assurance and quality control mechanisms ▪ Develop and/or enhance specific checklists for review, supervision and monitoring. ▪ Enhance regional systems on sub-project implementation and monitoring
Session Flow: **<u>Session 1</u>** **Introduction and leveling –off**	Introduction 1. Begin the session by explaining the rationale behind the need to review project policies and agreements based on NPMO/RPMO observations and WB Mission findings on sub-project planning and implementation. a. present common observations based on field monitoring, RFR submission, documents review, Aide Memoire, etc. 2. Gather additional observations and experiences from participants. The discussion and sharing should be limited for clarity and order. It must focus on the following aspects: a. Identification of appropriate design selection b. Planning and design preparation c. Preparation of cost estimates and POWs d. Review functions and signatories e. Supervision and monitoring stages 3. Having identified the common regional issues and challenges, focus on the review of the project policies and agreements to meet the project requirements. 4. Take note of common issues or challenges that are observed from the region and other stakeholders regarding monitoring results.
<u>Session 2</u> **Guided Reading of Project Documents**	A common understanding of CDD (Community Driven Development) is needed considering that most of the technical staff come from the private and the government sector and not all of them are aware of what CDD is, or have different strategies in project implementation of CDD. Some staff have experiences on infrastructure agency that often brings in their own perspective of development through building infrastructure alone, therefore, neglecting the process of community participation and basic principle of CDD on control of decisions and resources. 1. Review the fundamental principles of CDD through reading of project documents in the context of rural development. a. Short discussion of the ten principles of supporting sustainable and effective CDD b. Guided reading of the CEAC Manual, specifically Chapter 3 (3.2 Selection & Planning Stage) 2. After the reading, elicit comments and realization from the participants regarding the Project's approaches in implementing the CDD strategy.

	3. On CEAC Manual, ask how many participants have read the CEAC manual before and are aware of the processes involved in the planning, selection and management stage. Have them compare actual experiences during the cycle against what the manual recommends. 4. Ask the participants to write down their strengths and weaknesses on the meta cards, based on their actual experiences during planning stage. Two different colors should be used to identify strength from weakness. The meta-cards will then be posted and summarized, based on various aspects of planning and management. Note: Instructions must be concise and direct so as not to waste time. Writing and posting of cards should be done within two minutes. The three rules in using meta-cards should be mentioned: (write big, one idea-one card, maximum 3-lines per card). 5. Ask participants to explain the context of selected cards. 6. Document the results of the workshop. (assign documenter from secretariat)
<u>Session 3</u> **Project Policies And Agreements**	Objective: To emphasize the importance of the various issuances, such as the Quality Assurance (QA) and Quality Control (QC) mechanisms, as part of the Project's developed system of policies and agreements. Most of these issuances are taken from recommendations and agreed upon by Regional Infrastructure Engineers during workshops and conferences. 1. Define Quality Assurance (QA) and Quality Control (QC). 2. Discuss the scope and limitations of QA and QC. The participants should be able to understand when to observe QA and QC. 3. From the meta-cards posted (outputs of previous workshop), participants should identify which cards belong to quality assurance or quality control. 4. Ask the participants to comment on why their strength and/or weaknesses belong to QA and QC. It is important to take note why weaknesses and strengths falls on planning stage (QA) and project implementation/management (QC). Ask probing questions as there could be ideal answers that are not congruent with actual field experiences. 5. For works undertaken by contract, emphasize the need to strictly adhere to compliance on quality control. For payments on road projects, particularly for earthworks, emphasize also the <u>determination of work quantity accomplished</u>. 6. From the workshop outputs, review the corresponding policies and agreements. Ask participants on what factors can be attributed to compliance or non-compliance to the requirements. 7. The responses will be placed on the meta-cards and will be the basis of the TA agenda and will provide system enhancements for proper management of RPMT. 8. Ask for volunteer/s who can be considered as regional experts on common types of sub-projects. He/she will assist other field teams during planning or inspection/monitoring. These will boost peer-to-peer learning and pooling of staff expertise on

	specific SP types. 9. Form agreements in tightening regional QA/QC systems and provide documentation.
Session 4 **Sub-project Cost Parameters**	Note that after five years of Project implementation, the need to revisit and analyze the cost parameters across phases, cycles and municipalities is required. Determination of factors that attribute the cost-over runs and under-runs of project implementation must be discussed. Only then that we can understand why such over-runs/under-runs occurred. At present, there are several sub-projects reported as completed and which no longer request the 2nd and 3rd tranches. It is important for the Project to determine the factors affecting this trend in order not to deprive other non-prioritized communities in implementing subprojects due to excessive cost estimates. Some of the observations from the previous sessions will serve as inputs to this session in order to understand why there is a need to tighten the selection and planning stage of the Project. 1. From the regional database, present the cost parameters per SP type implemented per Phase, cycles and municipalities. An analysis should be shared to the participants. In turn, the participants are asked for comments. 2. Having established the regional cost parameters per SP type implemented by the region, select specific sub-projects outside the parameter range (extreme high and low). Subject the plans, cost estimates and POW to workshop review. 3. Group the participants according to SP type subject for review. Designate the volunteer expert of the SP as the lead facilitator on the review. Make use of the checklist developed for the technical review and determine what needs to be improved based on the workshop. a. For road projects, determine factors that attribute to the excessive costs based on reviews, such as: i. Misleading title of proposed sub-project (i.e. “improvement” instead of “construction” and “improvement” against “concreting” based on proposed work items); trying to avoid the ECC requirement for more that 3 kms length and the project policy on concreting. ii. Unnecessary and/or redundant work pay items included in the program (i.e. clearing and grubbing for road improvement, sub-grade preparation for sections with embankment work); iii. Equipment rental rates are over than the regular quotations offered by the Contractors; iv. No clear derivations on capability outputs both for manpower and equipment; v. No clear quantity take-off for the volume or area based from the plan (i.e. volume of earthworks, surface materials); vi. Excessive volume of earthworks, inadequate planning and site validation; vii. Indirect costs not in accordance to Project’s policy.

	b. For rural water supply system: i. Over design of reservoir sizes. Target household to be served by the system not considered in the design; ii. No hydraulic analysis for the sizes of pipes that leads to over design size for transmission pipes and distribution pipes; iii. No design computation for water pump; iv. Inappropriate technology used/recommended. Capability, capacity of community to pay tariff and maintain the system not considered in the planning and design; v. Strategic locations for tapstand sometimes not considered. c. Other SP types based on regional configuration. 4. Ask the group to present their findings. Determine if the above observations were also detected by the participants. Emphasize the importance of the above findings to ensure that field staff have the technical capability to prepared and review the outputs of service providers. 5. Discuss the Terms of Reference (TORs) for the proper guidance of staff on the engagement of the Service Provider. 6. Establish agreements in enhancing and tightening the system of review. If the checklist will require enhancement, it is better to involve the field staff to develop ownership and better compliance to the process. Encourage the practice of participatory decision making for the improvement of the system at the regional office.
Session 5 Subproject Management	Quality control is usually observed after work items have been completed. However, observance of quality control during the construction stage ensures completion of subprojects in a timely and cost-effective manner. The project must adhere to the motto of "What's Measured, Gets Done". There is also the need to understand the current practices at the field in order to improve the system at acceptable engineering practices. 1. Start the session by reviewing the outputs of session 2 (meta cards under QC). Note the practices manifested at the community level. 2. Provide inputs on SPI management (refer to CEAC, Chapter 3.4) a. This can be done through guided reading or powerpoint presentation 3. Discuss the current systems of the region on the following: a. Report and submission from ACT to the region (i.e. individual SP and municipal consolidation) b. Generation of individual report from BSPMC to ACT c. Determination of physical accomplishment (contract and CFA) i. Common practice in the measurement or inspection of works in-place (i.e. embankment, excavation, PCCP, etc.)

	d. Submission of required test results (i.e. FDT, concrete cylinder, etc) e. Payment of Contractors' billing/s f. Conduct of construction meetings g. Filing system of construction documents 4. The "how?" and "why?" must be given substantial attention during discussions. In this way, gaps or differences from the ideal system can be determined and addressed. 5. Agree on the what enhancements are going to be made on the system.
Session 6 **Self Reflection**	After the conduct of the system's audit, an evaluation of the learning gained by the participants from the technical sessions is important. Feedback can also be gathered as to the methodology adopted, and realization on their contribution to the development of project areas. It is also important to note if the level of confidence and technical competence of the field staff have improved. 1. Ask participants to share what they have learned from the sessions. They can be guided on the following aspect and questions: a. Recollection of his/her areas of weakness and gaps and how he/she can improve; b. Additional competency requirements to catch–up with project demands; c. Statement of how he/she will manage the engagement of the Service Provider based on project requirements? d. Identifying what knowledge/learning of the system they can impart or transfer to the community volunteers? How do they plan to do this? 2. Summarize the major points based from the technical and reflection sessions. Highlight the major agreements and system enhancements that will be observed by the project staff.

Area Coordinating Team Training Module

Session and Facilitation Guide: Understanding technical aspects of sub-project identification, planning and approval during the Social Preparation Stage.

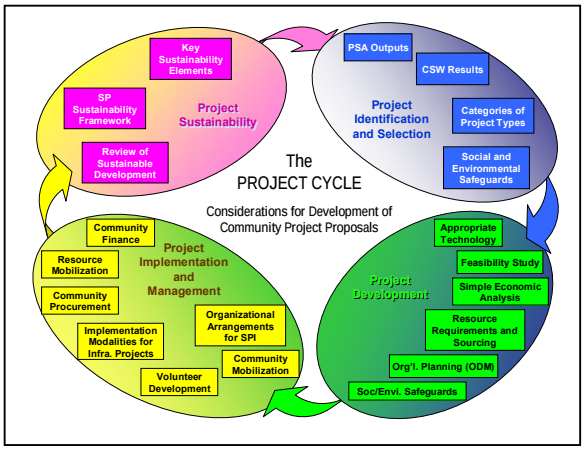
Purpose and Objectives:	To provide clear guidance in understanding the technical aspects of community sub-project planning and approval activities. Specific objectives are: ✓ To augment the participants knowledge and understanding in implementing community projects through CDD approach; ✓ To fully understand the importance of complying project documents and its consistency with other documentary requirements; ✓ To ensure that selection of appropriate investments for the community projects passes the project processes consistently from identification to approval
Target Participants:	✓ Area Coordinating Team members ✓ LGU Counterpart Facilitators, i.e. community facilitators and engineers ✓ Community Volunteers (BRT and PPT members) ✓ Potential Service Providers
Module Duration:	2 days
Methodology:	✓ Lecture-discussion ✓ Peer-to-peer learning through sharing of experiences ✓ Hands-on application of project documents ✓ Slide show on project implementation ✓ Role Playing
References, Resources and Materials requirement:	✓ CEAC Field Guide; section 3.2.3 Project Planning and Development ✓ Project's Infrastructure Manual (Revised 2009) ✓ Compilation of Projects' Policies and Issuances ✓ Project documents, i.e. site validation forms, sub-project concept form, technical plans, program of works and cost estimates ✓ Presentation materials ✓ Meta-cards and manila paper ✓ Marking Pens ✓
Expected Outputs:	At the end of the module, the participants: ✓ Able to appreciate the context of Community Driven Development (CDD) in a more deeper level of understanding; ✓ Familiarized and aware with the important project documents needed during the planning stage; ✓ Have gained additional knowledge on the technical aspects of project preparation; ✓ Ready and eager to practice in the field the new knowledge and skill acquired during the training.

Session Flow: Session 1: Introduction &levelling-off. What is Community Project? Duration: 0.50 Hour	It is expected from a Resource Person that He or She was able to review the Participants Profile. Notes on the age brackets, experiences and field of interests are likely listed to be able to make an inter-personal connection during the delivery of the module. The module is one of the technical aspects in implementing the KALAHI-CIDSS Project. The others are actual sub-project implementation, supervision, community procurement and financial management. It is important to set the level of understanding of the implementers and stakeholders on their views in implementing project. It is safe to assume that most of them have broad experiences in rural development from their previous engagement. The contextualization of what Community Driven Development is important at this stage in order to attain high percentage of success. The presentation may start with the normal introduction. Once the participants feel at ease, you can proceed with presenting the Sessions Outline. During this module, it is expected that participants are already oriented on the features of the Project. Since most of the participants are implementers and stakeholders, all of them are excited to learn how the KALAHI-CIDSS PROJECT will be implemented in their respective area. This is an opportunity for the Resource Person to know their level of awareness about development in the context of KCKKB by asking them a question. *What to you is a Community Project?* Being a good resource person, you also need to be able to facilitate the discussion by writing their answers to the board and encourage them to explain further if the response is stated in a broad-spectrum. Remember, all of the answers are considered correct. It is the Resource Person's task to rationalize and lead the discussion on a productive manner. After soliciting ideas, you may present the context of KC Project on what Community Project refers to:[38] i. Community projects serve as a learning tool ii. Community projects are convergence points iii. Community projects are instruments for poverty reduction Review the responses listed on the board and determine to what group it belong. You may also ask the participants to jointly identify the responses according to the functions enumerated. With this method, they could also remember and internalize the context of community project in CDD approach. To close the session, make a brief synthesis of the learning before going to the next session and activity.

[38] CEAC Field Guide, section 3.2.3 Project Planning and Development, pp. 71

Session 2: Environmental Scanning Duration: 1.5 Hours	Before the start of the technical session, do an activity that relate to the topic.Activity 1.The Leaves 1. Before the start of the session, look for a plant that has many leaves. Count all the leaves. And it means you're alone and counting ALL the leaves. Write the number in a piece of paper so that you won't forget. 2. Once in the session room, ask at least 4 - 5 volunteers from the participants. Place the plant on the front where it can be viewed even from the back. 3. Ask the volunteers to move to the back row. 4. The volunteers will try to make a count on the number of leaves. Write their responses on the board. 5. Ask them to move to the middle part of the room and let them count the Start the formal session by relating what was their insight if the plant happens to be a community. It is equally important that the facilitator able to understand the relationship of the plant to a community. Some of the insights are: ✓ *You only understand the situation of the community once you immerse at the community;* ✓ *You could not feel their need if you are far from the community; you could only guess which is perilous;* ✓ *It is important to "romanticise" with the community to know them fully;* Engage the participants to share their own experiences on their community work. You may get ideas on how they operate at the field level especially if they really stayed at the community for a long time. To gauge this, you may ask probing questions to the participants. It is important at this point to emphasize that the community facilitators must immersed at the assigned community. A Project is always measured by its performance. Performance is shown through different tools and methodologies as a mean of objective verifiable indicators. Therefore, diligence in complying the project's documentary requirement is essential. Relate the topic on environmental scanning by asking the participants on what they have learned in the Participatory Situational Analysis (PSA) module. It is very important to consider the results of the PSA in the preparation of technical proposal for sub-project. Part of the environmental scanning activity of the ACT members is to gather secondary and primary data at the municipal and barangay levels. Present the list of source information that must be secured by the ACT during the social preparation stage: ✓ Municipal Profile and Maps

	✓ Barangay Profiles and Maps ✓ Inventory of existing infrastructures (reflected on the Social or Infra Map) ✓ Inventory of heavy equipment available owned by the LGU ✓ Inventory of Suppliers and Contractors within the municipality ✓ Inventory of potential Service Providers Discuss the project templates and ensure that the participants understand fully the importance of this information during the planning stage. Be able to relate the Project policies with regard to the information. Example; ✓ *For LGU owned heavy equipment, it can only be committed for two sub-projects as local counterpart contribution in-kind.* ✓ *Hiring technical expertise of the Service Provider is also guided by a policy with corresponding Terms of References and contract.* At this point you may wish to take a short break. But before doing so, ask participants of their insights on the project's documentary requirements.
Session 3: Site Validations Duration: 1.5 Hour	The Project designed a two-stage site validation activity. The first is for the technical verification of the proposed site and the other as a joint field validation of selected community volunteers representing their barangay. The first is conducted before the planning and design, while the latter occurs before the scheduled Municipal Inter-Barangay Forum (MIBF-PDRA). While the session deals more on the technical aspects of the project planning, the facilitator must find way to simplify the delivery of the topic in a layman terms. Most of the participants are non-technical, i.e., social workers, finance, etc. Importance of conducting actual field validation and gathering information of the surrounding environment of the proposed sub-project site is equally important to that of construction activities. Failure to secure the vital information needed to come up with an appropriate engineering design will result to difficult implementation arrangements. At this stage, presenting the list of sub-project types eligible and not eligible (negative list) for funding is necessary. This will give the participants idea on the wide range of possible investments that KALAHI-CIDSS Project provides. The list must be clearly explained to the audience for their appreciation. Once the participants are clarified on the list of eligible sub-project type for funding, proceed with presenting the Site Validation Report forms, i.e., rural access, bridge, buildings, post-harvest facility, water supply system and small scale irrigation. As you go over in presenting the templates, engage the audience on where and how to gather the information required. Suggested strategies to accomplish the activity can be elicited from them. This will guide them once they're deployed in their respective area of assignment.

	Also, stress to the Engineers that analyzing the information will help them in preparing recommendations to the community on the appropriate technology to be adopted. The need to provide photo documentation of the proposed site has to be mentioned as well its rationale for submission. The other template that can also be complied during the site validation is for the environmental checklist. Part of the field verification is to analyze any potential environmental risks on the proposed sub-project sites. Is the mitigating measures readily available or will it cost much to the project to ensure negative impact is minimized? These are some of the questions to be considered during the site validation activity. End the session by eliciting their understanding on the importance of conducting site validation on the proposed sub-projects. While most of the participants are non-technical like the engineers, it is also equally important for them to appreciate the activity. Copy of the templates must be available on the training kit. Hands-on workshop can be conducted to simulate the filling-up of the validation forms. Prepare slides on previous documentation along site validations to offer idea on how this activity is conducted at the field level.
Session 4: Project Development Workshops Duration: 4 Hours	The Project had developed a field guide for the ACT members. This session will discuss the main features of the project planning and development along CEAC. Guide the participants on how they will plan, facilitate and organize their activities. Provide other important inputs (templates, references) to deliver the necessary quality outputs expected from this major project milestone. At the start of the session, you may share them the experiences of the KC project in the previous phases and cycles along project development activities. You can also encourage the participants to share their own experiences in project planning and preparations. Most important are the sharing of results, whether good and considered as best practice and the challenging results which we intend to resolve.  **Figure 1: The Project Development Cycle** Present the flow of the CEAC, explain the overview of the activities with focus on the considerations for developing the proposal as shown in Fig. 1.

For better appreciation and to have a good understanding of the simultaneous activities during this period, show the CEAC in PERT-CPM format.
Since you have already presented the list of eligible sub-projects from the previous session, the sub-project categorization may be explained as a starter for the long hour of technical session.

- ✓ Public Goods / Access projects
- ✓ Community Enterprise projects
- ✓ Human Resource Development projects

Once the project categories are clarified, technical inputs on the sub-project selection, design, planning will follow.

Sub-Topic 4a

Selection of Appropriate Technology

Theanalyses of the PSA outputs coupled with good information gathered at the community level are essential factors to the successful implementation of the project. Technical and social considerations in the final selection of the sub-projects need to be thoroughly evaluated.
Appropriate technology is defined as the one that delivers the most benefits at theleastcost**.**In KC project, design of intervention is anchored on this principle.

While the project caters an open menu for sub-project intervention, limitations and standard designs were also developed. Project experiences were incorporated in the CEAC field guide to ensure higher level of implementation success and overcome outstanding challenges. You may start the formal session with a phrase, "*Begin with the end in mind*".

Stakeholders must be able to picture-out what they want to see after the completion of the project. The following factors present in the community may guide them in selecting what is an appropriate technology for their proposed sub-project:

- ✓ Responsiveness of the proposed sub-project to the identified priority needs;
- ✓ Availability of local resources at the community/municipal level;
- ✓ Geographical location of the area;
- ✓ Cultural and customary practices;
- ✓ Potential negative environmental impacts;
- ✓ Type of end-users and
- ✓ The community's capacity for the operation and maintenance activities

Relating the results of the previous session (site validation) to the experiences observed by the project, Facilitator must be ready to mention specific examples of challenges faced by the project as a result of failures to analyze data and provide alternative options to the community. Example on the box, can be cited as a case to be presented.

Case Scenario in selection of interventions.

Example 1. The technical staff presented the standard technical design of a classroom building to be constructed in a far-flung area. The technical specifications indicated concrete structures and a steel design for trusses. However, the Barangay's locationposed some difficulties on accessing and hauling of these materials. As a result, delays in the procurement process, problems in hauling and the unavailability of laborer and animals cause further delays in the construction. The technical staff should have decided to modify the specification on the materials. Perhaps, good lumber available at the community can be utilized. The structure would then be more socially acceptableasobserved by the community members. Maintenance would also be easily done since the materials used are readily available at the community.

Other factual experiences along other sub-project types, i.e. water supply system, road access, electrification and post harvest facilities can be shared by the participants and the Facilitator. This approach will draw inter-action and interests among participants.

Ask any additional clarifications before ending the session on selection of technology.

Sub-Topic 4b

Engaging Service Provider & The Technical Assistance Fund (TAF)

The Project had issued policies in availing the Technical Assistance Fund and in engaging Service Provider both in planning and implementation stage. It is important to discuss these policies to guide staffs and stakeholders in the process of utilizing the grant fund.

Before the start of the session, make sure to have an e-copy and hard copy of the February 12, 2008 memos for engaging Service Provider including the TORs and the utilization of TAF dated March 3, 2008.

Highlights the important features and procedures in utilizing the TAF and engaging the service providers. Explain the Terms of Reference (TOR) and the contract for engagement.

Emphasize the type of sub-projects that are eligible for the use of fund during the planning stage. *Hair splitting* understanding must be level-off at this point, i.e., hiring of service provider for drafting road concreting and pathway which can be done/assisted by the Municipal Engineer and DAC.

Stress with the engineers the quality of acceptable outputs that the service providers must submit prior to payments.

Encourage the participants for clarifications, questions and comments.

Sub-Topic 4c

Sub-project Technical Standards

On this session, it is important to partake with the stakeholders the techniques in managing their time, the in complying the technical requirements of the Project. Standard designs of some sub-project types were prepared by the project to ease the burden of community volunteers in the technical preparation of proposal. It is important now to describe what the alternatives are and allowed deviations from these standard designs, and the manner of presenting the cost estimates.

Relate this session with the inputs from the previous sessions.

	You can start the session by showing various completed sub-project types of the KC Project. Include in the slides the Project Billboards. Ask the audience on what they have observed. Write their responses on the board. From their responses, you can start the formal session by relating some of their observations to the Project technical standards in terms of quality, costs and designs. Proceed by giving emphasis on the project's 3C's with respect to submission of technical proposal which are; Correctness, Completeness and Consistency. This will both guide in providing inputs and learning process of the participants. Part of the Project control on community grant is the approval of sub-project estimated costs. National and regional cost parameters were established per sub-project types to this effect. From the engineering design developed in the selection of appropriate technology, preparation of cost estimate follows. The project also established standards in terms of templates and assumptions in the derivation of unit costing. Cost sharing arrangement is also considered in the templates. Ask the participants with the following guided questions? ✓ Who are aware of a document called Program of Works? Have you seen one? ✓ From what you remember, what are the contents you have noticed on a Program of Works (POW)? *(write all their responses on the board)* ✓ Who have prepared a Program of Works? Was it easy or difficult? ✓ Why POW is an important document in a sub-project? Present the Project's template on POW. Process the responses on the board to that of the contents on the POW. Go over with the template and explain how and where data entries are coming from. The 3Cs can now be stress on this point. Examples below can be offered: ✓ Correctness – in terms of Titling the sub-project, whether construction or improvements or rehabilitation; or in terms of physical target and the unit of measurement; ✓ Completeness – in terms of scope of works and required signatories, is the entries logical and appropriate; ✓ Consistency – are the entries consistent with other documents and policy issuances, i.e., allowable costs of the indirect cost such as administrative, hand tools and amenities per sub-project type; the LCC commitment is a classic example for consistency. You may also enumerate and present other project policy issuances with respect to project standards such as: ✓ Size of engineering plans and the template for title block; ✓ Capability outputs for manpower and equipment ✓ Samples of standard plans, i.e., day care center, health station, school bldg.

	✓ Percentages for indirect costs At this point, ask the participants for any clarifications, questions and comments. Next, present samples in the preparing detailed estimates using the capability output. Relate this example with the program of work. Do a hands-on activity workshop in preparing simple POW. Activity 2.Preparing Cost Estimates and Program of Works 1. Distribute a pre-identified POW and cost assumptions for deriving unit costs. 2. Ask the participants to work on the exercises. 3. Presentation of workshop outputs. Ask for additional clarifications and questions before ending the session. Thanks the audience on their active participation.
Session 5: Packaging Proposal and Approval. Duration: 4 Hours	Since most of the previous sessions dealt with the nitty-gritty of the sub-project designs and costing, this session will discuss the remaining technical documentary requirements needed for the approval of the sub-project proposal. Permits, EMPs, Concept Form and the Checklist must be thoroughly presented during the session. *You may start the session by showing/telling a story on how Team should works."Not my Problem"* Make a short synthesis of the insights from the story before proceeding with the technical session. Ask the participants on their experiences in the preparation and submitting proposal. Review and highlight the importance of proper project documentations. Make a connection of their experiences to the project requirements in the approval of proposal. Present again the CEAC in PERT-CPM format and explain the remaining activities during the sub-project development stage.
Sub-Topic 5a Project Safeguards	On this session, the Environmental and Social safeguards policies of the project will be shared to the participants. The importance of the environmental scanning activity will provide analysis on the disaster risk reduction that can be discuss in the preparation of the Environmental Management Plan (EMP). Social safeguards along acquisition of project sites, indigenous people's right, protection of women, children, elderly and people with disability are considered. You may start the session by showing selected sub-project pictures which relate to the topics mentioned on the above box. Ask the audience on what they have observed from the pictures. Make a quick summary before starting the formal session. For environmental safeguard, you can describe the project system in securing the EMP and the conduct of environmental and social safeguard audit. Show the diagram for the activities related for covered and non-covered type of sub-projects.

	Explain the context of what do we mean by covered and non-covered sub-project based from DENR DAO 30 and PD 1586. Present the latest project grouping matrix of DENR in order for the audience to appreciate the type of documents required for the type of proposed sub-project. Present and explain the template for Environmental Management Plan (EMP). Clarify and emphasize that the engineers will assist the community volunteers in accomplishing the documents. The engineers will facilitate the discussion with community volunteers on the potential negative impacts of construction activities. Since the volunteers are more familiar with their area and environment, recommended mitigating measures will be jointly developed by the engineers and the volunteers. This approach will ensure that every construction activities, community workers will be aware of the potential impacts of the project to the environment and vice versa, and it is expected that they will warrant the protection of the environment through agreed mitigating steps. Present and explain also the EMP monthly report template. The other safeguard documentary requirement of the project is the acquisition instrument for the proposed sub-project sites. You have to present the acceptable legal documents on specific mode of acquisition. Show the slide for the matrix covering titled and untitled properties; public land and government owned properties and explain the steps in securing the corresponding acquisition instruments. Share also with the audience some strategies employed by the community members in securing the required documents, i.e. notarized deed of donation, barangay and municipal resolutions, DepEd certifications, DENR certifications. Present the process for annotating the privately owned and titled property selected as proposed sub-project site. For Indigenous People's (IP) communities, certification from NCIP is required.
Sub-Topic 5b Required Permits, Clearances	To further ensure the safety of the stakeholders particularly the end-users and proponent, other documentary requirements such as permits and quality test for some sub-project type is necessary. Discussing the importance and rationale behind securing the documents will stimulate compliance on the part of the audience and stakeholders. Enumerate the documentary permits required to some sub-project types: ✓ Building permits for any building structures (as stipulated in the MOA) ✓ Water permit application for proposed water supply sub-project ✓ Potability test results for the proposed water source For non-infrastructure type of intervention, simple feasibility study and marketing plan for income generating projects are required for submission. Ask the participants for clarifications, questions and comments before closing the

	topic.
Sub-Topic 5c Tariff Computation	One of the basic principles of the project is sustainability. Maintaining the services of the completed structures requires resources both financial and manpower. While the "Bayanihan spirit" is promoting and practiced at various rural communities, financial resource is still the key in continuous usage of the sub-project. Every community is unique and has its own priority type of project intervention. Various types of O&M arrangement were formed depending on the type of sub-project completed. For purposes of commonality, the template for deriving the tariff for a pump driven water supply system will be presented. Explain the steps in deriving the tariff based on the project's established format. Ask the participants of any other tariff arrangement they were able to experience and what were the results of the tariff collection. Site project experiences in terms of operation and maintenance as a result of poor tariff collection and good management on tariff.
Session 6: Review System	The project established Quality Assurance (QA) and Quality Control (QC) system even during planning stage. QA in a sense that; (i) the project prepared standard plans and templates to ease the workload of technical field staffs; (ii) planning policies defined, observed and reviewed. QC is observed at certain level especially before the conduct of sub-project prioritization. The project wanted to be assured that the proposals to be approved are compliant to the project requirements, principles and policies. Describing the system of review during the planning stage particularly on the technical requirements is done on several approaches. Check points for ensuring quality outputs are delivered on specific timelines are done through regular technical sessions spearheaded by the Regional Infrastructure Engineer. Field visits and coaching session with the DAC, ACT and Municipal Engineer also facilitate the compliance of project requirements following the 3C's. Both technical and social activities are track by the regional technical staffs. Specifically, by the end of the project planning stage, the technical requirements for the sub-project is reviewed thoroughly with the aid of a Checklist developed and agreed by the project. Present the Checklist template and discuss the manner the RIE or DRIE conduct technical review of the proposal. Before you finally end the module, run a quick review of what they have learned from the technical topics. You mention specific session/topic and ask the participants to describe what they have remembered in 2-3 words. Thank the participants for their active participation during the technical module on development planning.

	Finally, request them to fill-up the evaluation form for the module and training sessions.

Area Coordinating Team Training Module (Stage 2, Pre-Construction Conference)

Sessions and Facilitation Guide: Understanding technical aspects of sub-project pre-implementation and construction stage in the context of the KALAHI-CIDSSProject.

Purpose and Objectives:	To provide clear guidance in understanding the technical aspects of community sub-project implementation. Specific objectives are: ✓ To augment the participants knowledge and understanding in implementing community projects through CDD approach; ✓ To fully understand the importance of collective decision and actions for the timely completion of the community sub-projects; ✓ To ensure that participants understands the relationships of planning activities to that of the sub-project execution; ✓ To guide the participants and inculcate in their minds the importance of proper reporting, filing and safe keeping of project documents.
Target Participants:	✓ Area Coordinating Team members ✓ LGU Counterpart Facilitators, i.e., community facilitators and engineers ✓ Community Volunteers (BSPMC and other Ad Hoc members) ✓ Potential Service Providers for sub-project supervision ✓ Pool of designated Construction Foreman
Module Duration:	2 days
Methodology:	✓ Lecture-discussion ✓ Structured Learning Exercises ✓ Peer-to-peer learning through sharing of experiences ✓ Hands-on application of project documents ✓ Slide show on sub-project implementation
References, Resources and Materials requirement:	✓ Project's Infrastructure Manual (Revised 2009) ✓ Compilation of Projects' Policies and Issuances ✓ Project documents, i.e. Construction forms and report templates ✓ Presentation materials ✓ Meta-cards and manila paper ✓ Marking Pens ✓ Video or digital camera

Expected Outputs:	At the end of the module, the participants should be: ✓ Able to appreciate the methodologies and actions required during the sub-project implementation; validated their SP Gantt Chart of implementation schedule ✓ Familiar with, and aware of, the important project documents needed during the construction stage; action plan and Focal Person designated as "Keeper"; ✓ Have gained additional knowledge on the technical aspects of project implementation and their manpower utilization schedule revised ✓ Ready and eager to practice the new knowledge and skill acquired during the training, and apply it in the field.
Session Flow: **Session 1:** Introduction &levelling-off. **Process Review** **Duration: 0.50 Hour**	Before the start of the session, the Training Secretariat will ask the participants to prepare their Participants Profile and collect it. The Resource Person should review the Participants Profile. He/she should take notes on the age brackets, experiences and field of interests for better communication and inter-personal connection during the delivery of the module. After the preliminaries for the workshop, the Facilitator will introduce the Resource Person for the session. This session is important to be able to understand the context of participant's experiences and knowledge acquired during the sub-project identification and planning stage. This is basically a review of what they can still recall to anchor the flow of the module. The review of the participants' profile will show that most of them have broad experiences in rural development from their previous engagement(s). Because of these differences, it is important to set their level of understanding as implementers and stakeholders of the Project in the context of CDD. The Resource Person may start by his/her normal style of self-introduction. Once the participants feel at ease, the RP can proceed with the Session Outline. *The RP may start with a general question of; "what have you learned from the previous activities prior to this session?"* Being a good resource person, you have to facilitate the discussion by writing their answers on the board and encouraging them to explain further if the response is stated in a broad manner. The other option to consider is for You to ask them to write their responses on the meta-cards and have it posted on the board. Remember, all of the answers are considered correct. It is the Resource Person's task to rationalize and lead the discussion in a productive manner.

	After soliciting ideas, you may now categorize their responses whether Knowledge or Skill. The Resource Person will affirm the outputs and relate these to the module's objectives. To close the session, ask for some clarifications before moving to the next session.
Session 2: The Sub-project(Deliverables) **Duration: 1.0 Hours**	To start the session, you can show slides or pictures of completed sub-projects implemented by the KC:KKB Project. For purposes of learning with the project staffs, you may ask the participants what particular sub-project type they want to deal with for the workshop. At the barangay level, what ever sub-project type was approved; it MUST be the sample case for this similar workshop. As an example by the author[39] to assists the User of this Facilitators Guide, a Construction of a Gravity Driven Level II Water Supply System is presented. The workshop will be using meta-cards, sub-project plans/drawings prepared during the planning stage and printed pictures of completed sub-projects. He/She can also guide the participants of what they saw from the slides or pictures presented. 1. The Resource Person will ask the participants of what structures they want to see once the water system is completed. Ask them to write their responses on the meta-cards and have it posted on the board. *2.* If the Resource Person is not an Engineer, he will ask assistance from an Engineer. *(The module is expected to be facilitated by an Engineer).* *Example: (the cards may look similar to these or in dialect equivalent)* Concrete intake box; Concrete reservoir; Plastic blue pipes (or any other type of water pipes); Transmission pipes; Distribution pipes; Communal tapstands; Faucets; Padlocks; Water meters; Signboards (for O&M policies) 3. Once the cards are posted, the Engineer will arrange the cards (representing the structures) based on how the water system will looks like. A corresponding pictures or shop

[39] Engr. SarethTingson, KCKKB Project Chief Infrastructure Engineer, NPMO

drawing must be put above the cards for the participants to understand and imagine how the system or the sub-project is built as a whole.

Example:

int ake box - Trans.pipes - Reservoir -Dist. Pipes -

Tapstand Water meters -

Signboards

4. Process the remaining cards according to where it must belong on the structures.
5. Affirm the outputs of the participants and explain to them that this is what we call DELIVERABLES at the end of sub-project implementation. This must ALL be stated in NOUN form. You can also relate this on the Program of Works under the column of Work Pay Items.
6. Ask the participants on what have they learned from the workshop before closing the session.

Training staffs must ensure that the learning and insights are captured in the documentation. Outputs have to be transferred in Manila paper for the next session reference

At this point you may wish to take a short break.

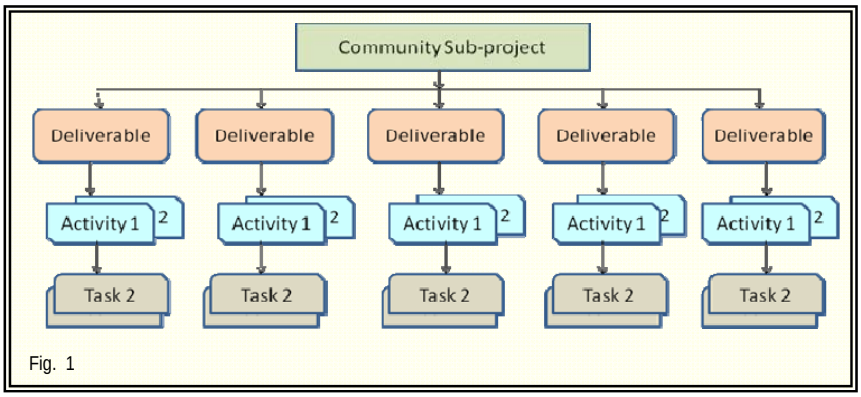
Session 3: Work Breakdown Structures (WBS)

Duration: 1.5 Hour

Insert DEFINITION OF WBS!!

This session will discuss on a more technical aspect of the sub-project implementation. Since most of the participants are non-technical, i.e., social workers, finance, etc., the Resource Person must find a way to simplify the delivery of the topic using some layman's terms. This Guide will try to attempt to simplify the process by doing a similar activity in session 2.

1. Looking on the outputs from Session 2, ask the participants of; what are the Activities to be conducted to complete the identified structures (deliverables)?

	2. Again, using the meta-cards, ask the participants to write their ideas and post on the board. Encourage all participants to write and post their ideas. 3. Process the cards together with the participants. You may notice that there could be cards that are sub-activities for a particular structure, and this is called Task. As an example; pouring of concrete mixture is an activity. While fabrication of form works, fabrication and installation of reinforcing bars are tasks. *(Logically, you could not pour the concrete mix without the reinforcing bars and form works in-placed.)* 4. Process all the cards as to where it must belong and affirm again the outputs of the participants. 5. Ask them again on what do they notice from the deliverables and activities? Now, you may observe that Activity and Tasks are all stated in VERB form. 6. If the cards are to be organized properly from the sub-project (water system) to several structures (deliverables) and under those are the activities and tasks, then you have completed your so called Work Breakdown Structures (WBS). Fig. 1.  Fig. 1 7. Before ending the session, present a slide on inputs for preparing the WBS and ask again the participants of their insights and learning. 8. The Training Team will again transfer the cards in a Manila paper as a reference for the next session.
Session 4: Construction Management	Management is broad and complex. Much more for a Community Driven Development (CDD) project like KALAHI-CIDSS:KKB where the ordinary people at the barangay level are given responsibilities to manage and implement their own identified project intervention. This session will try again to attempt a methodology for which maybe appropriate for the target participants. The session will be divided into three (3) sub-topics to cover the schedule; manpower, materials & equipment; and the safeguards aspect.

Sub-Topic 4a

Sub-project Schedule & Gantt Chart

Duration: 1.5 Hour

Just like any other Project, plans are already prepared prior to the implementation. Assumptions were made together with the possible risks which were identified during the planning stage..

This session is an exercise designed to validate those assumption to ensure that project stakeholders are informed of what are the requirements of the KC project during sub-project implementation.

It is expected that plans, detailed estimates and planned schedules are readily available during this activity. Thedocuments will serve as reference during the workshop.

A quick review of the processes, insights and outputs of Session 3 will somehow be the foundation of this sub-topic. The session will try to guide the participants on how to prepare a work schedule based from the outputs of session 3, work breakdown structures.

Using the documents prepared during the planning stage (e.g., POWs, detailed estimates, Gantt chart, construction methods, planned community procurement packages, etc.), this will be presented for information and confirmation of the stakeholders.

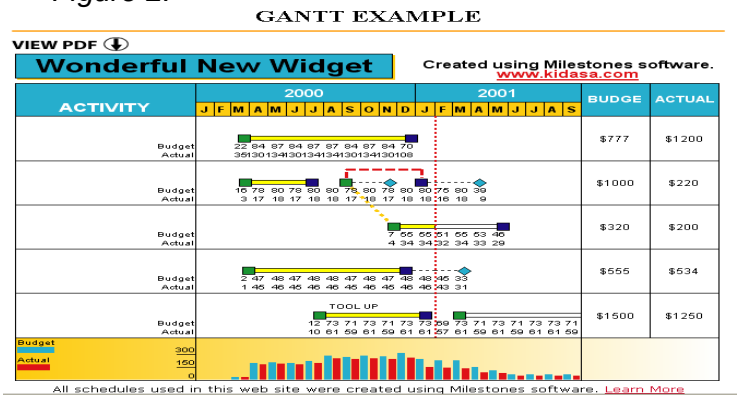
The Resource Person will make an introduction on the importance of the proper planning the work schedules. The effects of these must be emphasized to the participants.

1. Using the outputs from the WBS, ask the participants of; what are the logical sequence of activities to complete the water supply system? The Resource person may write the responses on the meta-cards and post on the board.
2. You will do this together with the participants until you are all satisfied as to the logical sequences of the activities. *(The cards must be arranged vertically to include the tasks that were identified according to the activity and 1st level deliverables).*
3. From the detailed estimates prepared by the Engineer, the estimated duration and basis to complete the tasks and/or activity will be presented. The assumptions to fully determine the planned duration of the activity or tasks must also be reflected. (*as an example; how many days per week will the workers work, will that include Saturday or Sunday?, is the timing of implementation*

will fall during rainy season, is this also included in the planned duration? What about the timing of the delivery of procured materials, is this also included in the duration?) If the planned schedule only covers the derivation of the task or activities, then, in the end, delays will be encountered compare to the planned duration. Once these are clarified to the participants, you may proceed with the next activity.

4. Ask the participants whether there are activities that could not start unless the preceding activity is not completed. Ask also the participants of what are the activities that could be done simultaneously.
5. Once these are all presented, plot on the board the planned dates (months/weeks) for the activities to be conducted including the corrected and agreed duration. If the duration will go beyond six-months, make necessary adjustment on the time-schedule (under KC, SPs must be completed within 6 months period).
6. Mark in the graph of the milestone activity. (Milestone will guide the implementer on whether the implementation is ahead of schedule or incurring delays).
7. Provide additional two columns after the time-scaled graph and put the planned budget and actual budget.
8. Provide a free space horizontally for each activity for tracking the actual duration and time the activity is implemented.
9. Once the activities are completed, ask the participants if they are satisfied with their time-scaled sub-project schedule.
10. The output may somehow look similar to Figure 2. However it is better if the WSPPR template will be utilized.
11. Before closing the sub-topic, ask the participants of their insights and learning on the process of preparing the sub-project schedule. Once again affirm the outputs and their active participation for the session.

Figure 2.



Sub-Topic 4b **Manpower, Materials & Equipment Plan** **Duration: 0.5 Hour**	Using the WBS developed by the group, the Resource Person will explain the resources needed to complete the sub-project. He/She can do this by asking again the participants. 1. From the WBS and under each deliverables, the RP ask the participants to write on meta-cards their ideas/responses on; what are the skills and/or manpower requirement to complete the deliverables? 2. Once the cards are posted, process these and confirm if the skilled workers are available (*during the barangay level training*). Relate this to the Gantt chart as to the timing of activities where these identified workers are needed. If the participants *(workers at the barangay)* confirm their availability, then you're done with the manpower utilization schedule. 3. Encourage interested women to learn some technical skills. Part of the project enhancements is to let the women sector actively participate and be given equal opportunity to be an "Apprentice" for skills they wanted to acquire (i,e. mason, carpenter, plumber). Just make sure that the women are physically fit for the work. The rate to be given to the Apprenticeship will be equivalent to that of an unskilled worker. 4. On similar activity, ask the participants to write on the meta-cards, what construction materials are needed to complete each activity or deliverables. Post the cards and process the outputs and confirm the outputs based from what the detailed cost estimates contain. The results can also be cross-checked with the Planned Community Procurement Packages (PCPP) previously prepared for consistency. 5. Likewise, if the type of sub-project will require utilization of equipment, same activity should be done to prepare the equipment utilization schedule. This can be done also to check the equipment schedules prepared by the contractor (if undertaken by contract). 6. Ask the participants for any clarifications before ending the session.
Sub-Topic 4c **Risk Management & Safeguard's Policy Compliance** **Duration: 1.0 Hour**	On this session, it is important to impart to the stakeholders the techniques in incorporating to their management plan the safeguards compliance required by the KC Project. As in the past, other communities are keen in observing the activities to mitigate the identified potential negative impacts cause by the project to the environment. With the recent phenomena on Climate Change, the Project

	Part of the planning activities is to prepare an Environmental Management Plan (EMP) for all community sub-projects. While the project has provided a guide on mitigating potential impacts based on the types of sub-project, stakeholders still have difficulty in elaborating the activities during audits. This session will try to address that concern by fully engaging them. 1. The Resource Person will present a brief overview of the project's safeguards policies. You can also share past experiences and observations with regard to the compliance of the project policies. 2. Review of the risk assessment conducted during the planning stage. Validate if some of the identified potential risks are still valid during the implementation stage. 3. From the activities and tasks identified in the WBS, ask the participants to write on meta-cards their responses for; what are the potential risks and negative environmental impacts that may occur as a result of the tasks or activity? 4. Post all the cards to the board and process it according to stages as suggested in the EMP template developed by the Project. 5. Using the references provided by the Project, cross-check the responses and process them according to specific activities or task. 6. Confirm with the stakeholders if the responses will somehow still valid base on the type of sub-project. With them agreeing to the outputs, ask them some follow-up questions. 7. On meta-cards again, match the identified impact with possible mitigating measures. Ask the participants on what to do to mitigate the risks or impact? 8. Relate the mitigating activities if it will affect the agreed schedule previously prepared. If the identified mitigating activities are outside of the implementation scope, prepare necessary adjustments on the schedule *(refer back to the Gantt chart)* to reflect the safeguards compliance. 9. Process the results and ask the participants of any further clarifications before ending the session. Don't forget to affirm their outputs and express gratitude for their active participation. 10. Part of this session is to agree on assigning a person who will undertake the safety measure/activities during the construction and post-construction period. 11. Training Team must transfer the meta-cards of all session outputs to a Manila paper. These are inputs to the next session.

	At this point you may wish to take a break before the next session starts. (participants may wish to look around and review their workshop results)
Session 5: **Reports and Record Keeping** **Duration: 0.5 Hour**	On this session, the reporting system will synthesize the results of the workshop activities of the previous sessions. The scope, schedule, budget, risks, and environmental safeguards will be part of the reporting in compliance to the Key Performance Indicators (KPIs) for 1. The RP starts with presenting the KPIs for the community grant component: ✓ Percent of completed sub-projects (SPs) implemented in accordance with technical plans, within schedule and budget. **AF= 85%** ✓ Percent of completed sub-projects that meet basic financial standards (Including the community procurement). **AF= 85%** ✓ % of barangays with community development plans prepared in accordance with KC participatory process. **AF=80%** ✓ % of municipalities that provide their KCAF Local Counterpart Contributions (LCC) based on their LCC delivery plan. **AF=80%** ✓ Percent of communities with sub-project that have sustainability evaluation rating of satisfactory or higher. **AF=85%** 2. Once the project staffs and other stakeholders understand and level-off with the Project's requirement, present again the WSPPR template and municipal consolidated report template. Explain briefly why the need to provide appropriate information on the report templates. Unless the project staffs understand the "Why", they will not be keen to accomplish the required reports. 3. Inform the participants of the reporting system especially the cut-off dates of report submissions. 4. Explain also the rationale on the need to designate somebody who will keep the project documents at the barangay and municipal level. Present the slides for Record Disposition Schedule (selected documents) as mandated by the National Archives of the Philippines (NAP). 5. Explain also the rationale behind the provision of cost for the procurement of filing cabinet for each barangay proponent. 6. Ask the participants for additional clarifications before ending the session.

Session 6: **Review System**	The project's Quality Assurance (QA) and Quality Control (QC) system was established even during planning stage. QA is defined as: (i) conformance to project standard plans and templates to ease the workload of technical field staffs; (ii) planning policies defined, observed and reviewed. QC is observed before the conduct of sub-project prioritization. This is to Describing the system of review during the planning stage, particularly on the technical requirements, is done through several approaches. Check points for ensuring that quality outputs are delivered on specific timelines are done through regular technical sessions spearheaded by the Regional Community Infrastructure Specialist. Field visits and coaching session with the DAC, ACT and Municipal Engineer also facilitate the compliance of project requirements following the 3C's (Completeness, Correctness and Consistency). Both technical and social activities are tracked by the respective regional technical staffs. Specifically, by the end of the project planning stage, the technical requirements for the sub-project has been reviewed thoroughly with the aid of a developed and agreed by the project. Present the Checklist template and discuss the manner on how the RIE or DRIE should conduct a technical review of the proposal. Before you finally end the module, run a quick review of what they have learned from the technical topics. To measure the session's effectively, you can mention specific sessions/topics and ask the participants to describe what they have remembered in 2-3 words. Thank the participants for their active participation during the technical module on development planning. Finally, request them to fill-up the evaluation form for the module and technical sessions.

FACILITATOR'S GUIDE IN THE CONDUCT OF COMMUNITY PROCUREMENT TRAINING

Background & Rationale:	The Procurement activity is one of the vital and integral components of project implementation. Community procurement in KALAHI-CIDSS:KKB Project is unique in that community volunteers are the ones actively undertaking various fiduciary activities. After six years of implementation, it is expected that fiduciary ex-post review findings will help improve the system and facilitate the efficient release of community grants. However, recurrent findings during the DAC-MRB fiduciary workshops revealed a need to review the system and the basic knowledge inputting to project stakeholders. Session plans submitted from regional offices, indicated that adult learning methodology is not maximized for the scheduled two-day community procurement training/workshop. The proper delivery of the community training and the methodology used is critical to ensure that community volunteers understand the principles or procurement, realize its responsibilities and appreciates various procurement forms. This should be the main objective of the community training/workshop. Thus, the proposed session plan and facilitator's guide will help improve the delivery mechanism for training and thus facilitating the on-time release of funds and improve project performance.
Objectives:	The over-all objective of this facilitator's guide is to improve the procurement and disbursement performance of the Project by enhancing knowledge of procurement activities. Specifically, it will also provide tips on the appropriate training methodologies for adult learners such as community volunteers. The appreciation of project staff on their roles and responsibilities in guiding procurement volunteers should be clearly defined.
Preparatory Activities:	ACT, MCT and BSPMCs must closely coordinate for the conduct of the two-day procurement training/workshop and prepare the following: 1. Venue, accommodation, catering and training materials (supplies, attendance, participant's profile, name tags, etc.) must be prepared prior to the date of training. 2. Enough copies of Hand-outs (if possible in local dialect) 3. Identification of implementation mode per barangay that will adopt Community Force Account (CFA) or contracting. This is important, so that clustering of training batches can adopt a more focused knowledge sharing based on the required implementation modality. 4. Presentation materials and workshop cases; (in manila paper) a. Planned Community Procurement Package (PCPP)

	b. Sample procurement packages c. Procurement forms (e.g. canvass, abstract, P.O, etc.) d. Cost estimates and POW e. Inventory List of Suppliers and Contractors 5. Facilitator and Resource Person must be knowledgeable and ready for the assigned topic/s. 6. Procurement Manual and its latest amendments for easy reference (local dialect translation is encourage) 7. Compilation of Fiduciary Findings for case studies and sharing of experiences. 8. Team building activities among ACT, MCT and selected volunteers on the sessions and topics to be delivered. It is also expected that tasks on activities shall be shared among training team. 9. Structured Learning Exercises (SLEs) and ice breaker per session
Session Flow:	It is important that the Participant's Profile be filled–up by the selected volunteers upon registration. This will help the Facilitator and Resource Person to level–off with the participants on the delivery of topics. Opening amenities have to be prepared by the training team.
Session I Leveling of Expectations 8:30-9:00AM	Expectation sharing of volunteers can be done through the use of meta-cards regarding the following; content, co-participants, facilitator & training team. Process some selected cards to ensure that it is being understood by the group. An overview of the two-day activities must be presented to the community. It is Important that the objectives and the reason why the community training is being conducted be communicated well to keep their interest and excitement throughout the training sessions.
Session II Overview of KCKKB Community Procurement 9:00-10:00AM	The Facilitator will start by asking the participants on what to them is the meaning of Procurement (translated in local dialect; ex. *Pamalit in Visayan dialect). Provide the definition of Procurement and ask if this is new to them?* *Present and explain the basic principles of Procurement. Site examples on:* Fairness Efficiency-effectiveness Economy Transparency Accountability Enumerate and share examples and actual experiences on the KC Procurement Policies. Present the Procurement set-up and the role of each volunteer. Ask participants what their responsibilities are as a member of a

	specific Ad Hoc Committee, then level–off with what is expected from them. Before ending the session, ask participants if they have any clarifications on the topics. Ensure that participants understand the session by reviewing the principles of FEETA. End the session with a short Break and prepare an ice breaker before the start of next session
Session III Procurement Threshold and Methods 10:15-12:00PM	To determine the appropriate procurement method to be adopted by the community, it is important to explain to them the project threshold or limits for shopping or bidding for goods and works. Differentiate goods from works by giving examples (ex. Supply of construction materials is “Goods” while “works” include supply of materials and put in placed based on approved plans. Emphasize the level of review from BSPMC, ACT, RPMT AND NPMT and the issuance of NOL. Let them understand their responsibility given by the project for transactions up to Php500,000 and the reasons why there is a need to conduct ex-post review and the issuance of No Objection Letter (NOL). For them to appreciate and understand the identification of procurement threshold, present packages and let the participants select the appropriate method either local shopping or bidding. Ask the participants questions to test their understanding of the topic on project threshold and procurement methods. Relate their answer to their way of life at the community. *Post the presentation materials on the wall for gallery viewing of participants during lunch and snack breaks. This will help them recall the discussions. They may also list down some questions for further clarification on the next sessions.*
Session IV Procurement Processes and Packaging 1:00-4:00 PM	Procurement is the heart and soul of project implementation. Delays experienced during implementation are procurement related. They are either; non-compliance to project policies, incomplete entries, redo of activities, non-familiarity with proper procedures and non-observance to durations that need to be addressed at the ACT level. Since grouping of training batches of barangays will be done according to foreseen implementation mode (CFA and Contracting), the discussions should focus on applicable and appropriate procurement methods to be adopted by the barangays included in the training batch (e.g., local shopping or bidding). Present the flow of the community procurement process for local shopping or bidding (depending on what method per batch).

	Explain the importance of each activity and the required outputs; identify the responsible persons and the expected durations to complete the activity. Ask the volunteers what particular committee they belong to and on what activity they should be involved actively. Emphasize the possibility of delays once the activity is not done in accordance with project policy and procedures. Once the flow is understood by the participants, start the discussion by presenting the Format of Planned Community Procurement Packaging (PCPP) and discuss the required entries. Present sample procurement packages and discuss their observations. Previous findings from NPMT & RMPT are good material to be shared to the group for better understanding of good procurement packaging. It is important to discuss common mistakes in coming up with "splitting" in order to avoid similar lapses before. Prepare some cases of procurement packaging for workshop exercises (Workshop 2). If possible, make use of the detailed cost estimates of their proposed sub-projects for the hand-on workshop. *Community Facilitators are expected to assist their barangay volunteers during the workshop to have a hands-on experience and understanding of the preparation of procurement packages.* *An inventory list of Suppliers in the locality must be posted to guide the volunteers on their preparation of procurement package.* Presentation and processing of workshop outputs. Let the volunteers present their observations and comments. Ask other participants if the observations are correct or not. End the session by providing other observations and confirming the comments and workshop outputs. If there is a need to further clarify the outputs, it is important to highlight what needs to be improved.
Session V Minutes Writing 4:00-4:30 PM	"Minutes of the Meeting" is a document that details what transpired in a particular activity. Specific arguments and agreements must be captured and written on the minutes in order to understand the level of decision made by the group. The objective of the session is to familiarize the participants on what are the contents of a good "minutes of meeting", and to gain knowledge on the proper procedures in documenting an activity. Present the outline for the preparation of "Minutes of meeting". Explain the required information and why it is necessary. From this, the participants will understand the importance of a complete and well-written "minutes of meeting". For workshop 3, ask the participants to write a "minutes of meeting" based on what transpired during workshop 2, to be presented on the next day.

	The Community Facilitator is expected to discuss this session and prepare presentation material in Manila paper for the outline of minutes of meeting. The same will be posted at the duration of the training for guidance to participants.
Session VI Learning Insights and Feedbacks 4:30-5:00 PM	To be able to gauge the level of learning of the participants for the whole day activities, ask the participants: 1. What have we learned from today's sessions? 2. What session/activity do you like most? Why? 3. What topic does not interest you most? Why? 4. Is the methodology for the day's session appropriate? What do you think is needed to improve the training session for tomorrow? *The Training team must be alert enough to capture the insights mentioned by the participants, and to make necessary adjustments for the next day's session. Continue to improve also on the good points observed.*
Session VII Presentation of Minutes 8:30-9:00 PM	Ask one volunteer from the Procurement Team (PT) to present his/her homework on minutes of meeting. Observations and clarifications must be guided based on the outline posted for easier and faster learning process. Emphasize that the PT and CF are responsible in ensuring that the "minutes of meeting" is in order.
Session VIII Procurement Forms and Procedures 9:00-12:00 PM	The next two sessions should focus on the applicable procurement method to be adopted by the barangays. If local shopping method for CFA is the planned mode, then the following procurement forms must be discussed; 1. Canvass Form 2. Abstract of Canvass If local bidding for contract work is adapted, the following forms must be explained; 1. Invitation to Bid 2. Conduct of Pre-bid Conference 3. Abstract of Bids For this session, a workshop on the filling up of canvass form and a simulation activity for serving canvass will play an important aspect of the learning process. From the workshop output of session IV (procurement package), let the participants prepare a canvass form for the workshop. Present the canvass form and explain the specific details and important features that the volunteers have to remember. Make use of the fiduciary findings on canvass form as shared experiences. (*common lapses; none or inconsistent dates of canvass, no signature of canvasser and supplier, no check mark whether delivered or pick up, etc.)*

	Before the simulation for serving canvass, select training team members that will act as suppliers. Ensure that enough forms (canvass and acknowledgement receipt) are available for the workshop. Make sure that Procurement Team will be able to learn the important aspect of canvassing. The simulation will end on canvass opening and preparation of Abstract of Quotations. Inputs on the proper procedures for opening and evaluating submitted canvass must be clearly explained to the participants. Sample cases of abstract from previous procurement transactions should be prepared earlier for a faster and efficient learning process. Findings from fiduciary review are good cases to be shared during the workshop. Discuss the results of the workshop and ensure that participants are able to apply the project policies and principles in the workshop activities. (*ex. winning supplier or quotations encircled, signature of BAC members, horizontal and vertical summation corrected, etc.)*
Session IX Evaluation and Award 1:00-2:00 PM	After a brief review of the previous session, evaluation and contract engagement should be explained to the volunteers. The responsibilities and obligations of the BSPMC and the suppliers and contractors have to be clearly defined at this point. Present and explain the content of Purchase Order and/or Contract Agreement. Encourage questions from the participants. Provisions on penalty *(1/10 of 1% for every day of delay*) and how it must be computed must be given emphasis. Workshop on filling up the Purchase Order based on the result of previous workshop (Abstract of Canvass) will be the output of this session.
Session X Procurement Redflags and Monitoring Tools 2:00-3:00 PM	In order for the participants to appreciate and understand the monitoring mechanisms installed by the project, the list of "red flags" in procurement have to be discussed and explained. They need to understand what "red flags" is, and how and when can these happen. The conduct of ex-post fiduciary review on procurement transactions conducted and the possible penalties/sanctions need to be discussed and explained to them (*refer to Schedule 5 of the Loan Agreement). Part of the fiduciary review is the filing system required at the BSPMC and ACT office. Emphasize that all documents must be kept and on-file at the BSPMC with a separate file for ACT.* *A Short review on the list of "red flags" should be given to gauge the level of learning is recommended before ending the session.*

Session XI Action Planning 3:15-4:00 PM	To guide the volunteers on their proposed procurement activities, and in preparation for requesting for release of funds, the Procurement Action Plan (PAP) should be discussed and clearly explained to them. (*refer to the guide provided on the policy issuance*). Emphasis on the chronological activities and its corresponding timeline (benchmark) has to be communicated clearly to them. The importance of the dates and the responsible persons will be the basis of the ex-post fiduciary review. The posting of the procurement plan will serve to inform the community members of the incoming activities. Therefore, there will be no reason for BAC members' failure to attend. The ACT will consolidate the plans and map out the schedule of procurement activities for the barangays. At this point in time, CFs, MRBs, DACs should be able to identify volunteers that require follow up coaching session. Ask one volunteer to present their workshop output for comments and further enhancement.
Session XII Learning Insights and Feedbacks 4:00-4:30 PM	Before the session ends, ensure that training evaluation forms are accomplished by all volunteers for ACT/MCT's analysis. To be able to gauge the level of learning of the participants for the whole day activities, ask the participants on: 1. What have we learned from today's sessions? 2. What session/activity do you like most? Why? 3. What topic does not interest you most? Why? Present the workshop result on expectation setting and ask the group to rate the performance of the training session. Don't forget to express gratitude and thanks to participants who have shared their time and experience in attending the two-day learning workshop. Acknowledge the support provided by the local government units and the political leaders who, in one way or another, provided assistance to the success of the training.