ENSURING QUALITY IN PLANNING AND IMPLEMENTATION OF CDLD PROJECTS

QUALITY ASSURANCE AND QUALITY CONTROL MANUAL

Community-Driven Local Development
Government of Khyber Pakhtunkhwa

The Quality Assurance and Quality Control Manual has been prepared and published with the technical assistance of the Khyber Pakhtunkhwa Community-Driven Local Development (CDLD) Programme.

Authored by:
Ayaz Khan (Key Engineering Expert, Khyber Pakhtunkhwa CDLD Programme)
Ajmal Khan (Key Capacity Building Expert, Khyber Pakhtunkhwa CDLD Programme)
Shahzad Arif (Key Monitoring & Evaluation Expert, Khyber Pakhtunkhwa CDLD Programme)

Reviewed by:
Brian Fawcett (Team Leader, Khyber Pakhtunkhwa CDLD Programme)

Edited by:
Tariq Afridi (Senior Strategic Communication Specialist, Khyber Pakhtunkhwa CDLD Programme)

Designed by:
Wasim Abbas (Ad.Sense Printing & Advertising, Peshawar)

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ACRONYMS

AC	Assistant Commissioner
CBO	Community Based Organisation
CDLD	Community-Driven Local Development
DDC	District Development Committee
DPO	District Planning Officer
DO F&P	District Officer Finance and Planning
ED	Education Department
EUD	Delegation of the European Union to Pakistan
EU	European Union
GoKP	Government of Khyber Pakhtunkhwa
KP	Khyber Pakhtunkhwa
LD	Line Departments
M&E	Monitoring and Evaluation
O&M	Operation and Maintenance
PCRC	Policy Coordination and Review Committee
PoE	Pool of Engineers
PHED	Public Health Engineering Department
QA	Quality Assurance
QC	Quality Control
QS	Quality System
RMU	Reforms Monitoring Unit
SMP	Social Mobilisation Partner
SRSP	Sarhad Rural Support Programme
TA	Technical Assistance
TEC	Technical Evaluation Committee
TOR	Terms of Reference
XEN	Executive Engineer


CDLD

1 CONTEXT TO THE MANUAL

In the middle ages, artisans, craftsmen, masons, carpenters, engravers, traders or merchants formed an association (guild) to control the practice of their crafts and businesses in a particular town. They were organised in a manner similar like a professional association, trade union, a cartel, or a secret society.

They often depended on grant of letters patented by the royalty to enforce the flow of trade to their self-employed members, and to retain ownership of tools and the supply of materials. Lasting legacies of traditional guilds are the guildhalls constructed and used as meeting places, such as the Windsor Guildhall in London.

The guilds adopted responsibility for the quality of goods, services and products offered by their members, setting and maintaining certain standards for guild membership. As customers, the royal governments purchasing materials and products were also interested in quality control. For this reason, King John of England appointed William Wrotham to report about the construction and repair of ships. Centuries later, Samuel Pepys, Secretary to the British Admiralty, appointed multiple overseers to ensure the quality.

Prior to the extensive division of labour and mechanisation resulting from the Industrial Revolution, it was possible for workers to control the quality of their own products. The Industrial Revolution led to a system in which large groups of people performing a specialised type of work were grouped together under the supervision of a foreman who was appointed to control the quality of work manufactured.

During the World War II, manufacturing processes became more complex with larger numbers of workers being supervised. This period saw the widespread introduction of mass production, which brought new challenges as workmen could now earn more money by the production of extra products. This, in turn occasionally led to poor quality workmanship being passed on to the assembly lines.

To ensure the quality of workmanship, full-time inspectors were introduced to identify, quarantine and ideally correct product quality failures. Quality control by inspection in the 1920s and 1930s led to the growth of quality inspection functions, separately organised from production and large enough to be headed by superintendents.

In the post-World War II era, many countries› manufacturing capabilities that had been destroyed, were rebuilt. General Douglas MacArthur oversaw the re-building of Japan. During this time, General MacArthur promoted the collaborative concepts of quality to Japanese business and technical groups, and these groups utilised the concept in the redevelopment of Japanese economy.

Although, there were many individuals trying to lead US industries towards a more comprehensive approach to quality, the US continued to apply the Quality Control concepts of inspection and sampling to remove defective product from production lines, essentially ignoring advances in Quality Assurance for decades.

2 DEFINITIONS OF QUALITY

2.1 Quality Assurance (QA)

QA is a way of preventing mistakes or defects in manufactured products and avoiding problems when delivering solutions or services to customers. This defect prevention in QA differs subtly from defect detection and rejection in quality control.

QA is applied to physical products in pre-production to verify that the production meets specifications and requirements. It is always a method of validating lot samples during manufacturing to meet specified quality controls. QA is also applied to software to verify that features and functionality meet business objectives, and that code is relatively bug free prior to shipping or releasing new software products and versions.

QA comprises administrative and procedural activities implemented in a quality system so that requirements and goals for a product, service or activity can be fulfilled. It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention. This can be contrasted with quality control, which is focused on process output.

Two principles included in QA are: **“Fit for purpose”** (the product should be suitable for the intended purpose) and **“right first time”** (mistakes should be eliminated). QA includes management of the quality of raw materials, assemblies, products and components. Services related to production, management and inspection processes are also authenticated by QA practices.

Suitable quality is determined by product users, clients or customers, not by society in general. It is not related to cost. Adjectives or descriptors such as “high” and “poor” are not applicable. For example, a low priced product may be viewed as having high quality because it is disposable, whereas, another may be viewed as having poor quality because it is not disposable.

2.2 Quality Control (QC)

QC is a process by which entities review the quality of all factors involved in production. QC is defined as “a part of quality management focused on fulfilling quality requirements”.

This approach places an emphasis on three aspects:

1. Elements such as controls, job management, defined and well managed processes, performance and integrity criteria, and identification of records.
2. Competence, such as knowledge, skills, experience, and qualification.
3. Soft elements, such as personnel, integrity, confidence, organisational culture, motivation, team spirit, and quality relationships.

Quality is a desirable characteristic by all stakeholders in construction. The QA is a set of activities where the purpose is to demonstrate that an entity meets all quality requirements. QA activities are carried out in construction projects to inspire the confidence of stakeholders in meeting the quality requirements. QA provide the stakeholder with adequate confidence that a structure, component, material or system meets specified quality standards to perform satisfactory during its entire service life.

QC includes product inspection, where every product is examined visually, and often using a stereo microscope for fine detail before the product is sold into the external market. Inspectors will be provided with lists and descriptions of unacceptable product defects such as cracks or surface blemishes for example. The quality of the outputs is at risk if any of these three aspects is deficient in any way.

QC emphasises testing of products to uncover defects and reporting to management which makes the decision to allow or deny product release, whereas, QA attempts to improve and stabilise production (and associated processes) to avoid, or at least minimise, issues which led to the defect(s) in the first place. For contract work, particularly work awarded by government agencies, QC issues are among the top reasons for not renewing a contract.

The objective of construction QA/QC is to independently assure that the activities of a specific project are being performed in accordance with all contractual specifications, quality standards or government regulations. The QA/QC is verified through checks, audits, inspections and observations. These audit services are carried out completely independently of the implementers.

Project quality management must address both the management of the project and the product of the project. Failure to meet quality requirements in either dimension can have serious consequences for any or all the project stakeholders. True QA/QC is in constant inspection along with project quality teams having a deep knowledge of the QA/QC procedures. The verifications and reminders of quality in construction are consistently communicated to the stakeholders.

Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy a given need. The term ‹given need›, in case of project works, can be interpreted as the functional requirements. The quality of outputs is always agreed upon between the Government and the Community Based Organisations (CBOs). The quality objective must be to achieve zero defects. It can be made possible only by ensuring the quality at all stages of project works.

The following are some of the additional elements pertaining to quality and how to achieve it:

- Quality: Conformance to set requirements.
- Assurance: The act of giving confidence. Also, can be referred to as the state of being certain or the act of making certain.
- Control: An evaluation to indicate the required corrective responses or the act of guiding a process in which variability is attributable to a constant system of chance causes.
- Quality System (QS): A set of documented processes, which seek to provide confidence that the project outputs will fulfill the functional requirements. The QS should encompass the organisation, responsibilities, human resources, materials, equipment, processes, inspections, testing and other parameters of the project.

3 CURRENT SCENARIO

As of now, the culture of QA/QC is non-existent within any of the “engineering oriented” Line Departments of the Government of Khyber Pakhtunkhwa. Owing to this negligence, the quality issues of civil works are rampant, which has been one of the enhanced reasons for the dwindling and diminishing masses’ confidence on public service delivery institutions.

In this context several examples can be quoted, where civil works have collapsed pre-maturely, much before their expected useful life span. Besides resource wastage, it has certainly been a source of embarrassment and concern for the state institutions.

In this checkered scenario, within the context of the Community-Driven Local Development (CDLD) Policy of the Government of Khyber Pakhtunkhwa, there is an urgent need for inculcating the QA/QC culture within all spheres of engineering institutions. It is equally applicable to the CBOs, which will be responsible for implementing the civil works of their respective schemes.

Additionally, the CBOs will also be responsible for the post-completion operation and maintenance (O&M) related functions. Therefore, it is imperative for the CBOs to be aware and conscious about the quality aspects of their community projects to be undertaken under CDLD, since better quality and delivery of work reduces the overall O&M costs and efforts.

4 QA/QC MANUAL

This manual focuses on the implementation activities of the CDLD Programme, starting from the planning a project right till its final completion. This includes all phases of implementation, such as, planning and designing the project following successful application process, negotiating the contract award with the successful CBO, physical implementation of the project activities and supervision of the construction works. Other aspects of project implementation have also been covered but in less detail. The manual is intended to be used primarily by the design, supervision and monitoring teams at various stages of the potential work under CDLD.

The QA/QC manual does not attempt to suggest technical specifications or engineering standards. These are already stated in the detailed design and project contract documents. Also an Engineering Manual has been developed for covering the technical aspects. The sole aim of this manual is to ensure that the works are executed as per the given standards and specifications, i.e. to provide means of achieving the end results in a qualitative manner.

The subsequent sections of this manual are as follows:

- Organisation, Responsibilities and Authorities
- Trainings
- Design Control
- Construction Quality Control (general)
- Control of Materials and Equipment Components
- Control of General Civil and Structural Works
- Document Control
- Reporting

4.1 Organisation, Responsibilities and Authorities

This section of the QA/QC manual describes the organisational arrangements of the programme implementation and outlines the responsibilities of each organisation.

All stakeholders of the CDLD including, Provincial Government, District Governments, Line Departments and CBOs, are responsible for continuous QA during the project cycle, with adequate control and its recurrence to rectify the end result accordingly. The adherence to QC is not a function to be delegated to anyone in its isolation. It is rather a collective responsibility of all, alike. All the stakeholders have support staff and technical resources to ensure adherence to QA and QC, prior to implementation at planning and designing stage, and during the physical work of executing the CBOs' schemes.

Followings are the key stakeholders:

- Engineers of the Line Departments (LDs), who will be assisted by the Pool of Engineers (PoE).
- PoE being hired by the district governments for augmenting the LDs.
- District Field Engineers of the TA team, who will be providing technical assistance to all the stakeholders for conforming to the qualitative aspects.
- Beneficiary communities in themselves, represented by the CBOs. The CBOs will be organised in different committees, such as Project Committee, Procurement Committee, Monitoring Committee, Audit Committee, O&M Committee, etc.
- Third party auditors to be hired by the GoKP through open-market competitive bidding. Besides financial auditing, the auditors will also be conducting the physical audit of various infrastructural interventions, also encompassing the quality aspects.

4.2 Methodology

Adherence to quality cannot be ensured without adequate training. Hence, it is a mandatory prerequisite that prior to implementation of works, there must be trained staff along with formal and on-the-job technical support arrangements. This will ensure effectiveness and quality of work. The capacity building at different tiers will not only be helpful to achieve quality of work, but will also be beneficial for future prospects, contributing to the achievement of the CDLD Policy objectives.

Training sessions will be conducted at the level of each district, with prior notification. This arrangement will ensure reasonable mobilisation time for the target audience so that they could ensure their participation. Besides Power Point presentations, audience will also be provided with the hard copies of this manual, information brochures, various publications and reusable templates. During the course of presentations, all the participants will be given opportunities for raising questions, clarifying their doubts and making elaborations by quoting examples from daily life.

Due efforts will also be made for taking the trainees to some relevant worksite and make them fill the templates, which will also become a practical mock exercise.

4.3 Implementation and Quality Mechanism (General)

The capacity building of all stakeholders related with the construction works is of utmost importance, which cannot be undermined at any stage. In this chain, as the ultimate beneficiaries, the CBO and its appointed Project Committee has to play the most important role. They have to be conscious that post-completion O&M responsibilities of the community project will devolve upon the CBO for the entire life of the scheme. Hence, it is ever more important to ensure quality of procured materials, executed works, workmanship skills, financial management and supporting documentation.

The above enumerated stakeholders will be performing the following roles and responsibilities:

4.3.1 Line Departments (LDs)[1]

In view of the multidimensional engagements of the LDs in their routine works, the Pool of Engineers (PoE) will be supporting them in the implementation of CDLD lead CBOs' infrastructural schemes. Salient features of their responsibilities are as under:

- PoE will work under the technical supervision of the respective LDs, depending upon the nature and type of infrastructural interventions.
- Being TEC members, LDs will assist in reviewing, scrutinising and approving first applications and detailed proposals. These will be conducted in line with CDLD policy, given criteria, engineering codes, design details and specifications, in such a manner that benefits are disseminated to the maximum number of beneficiaries.
- The design documents, quality of drawings along with workable scale and details, BoQ and costing as per MRS 2015, will be thoroughly checked, scrutinised and vetted vis-à-vis its practical aspects and replication by the CBOs.

[1] CDLD Notification No.FD/EU/CDLD/I-I/2013, Peshawar, 15 Aug 2014, Paragraph # 8. Engineering Support to CBOs' projects, page # 13.

- Technical supervision and inspection of the CBO project is the total responsibility of LDs.
- Head of the relevant department shall be solely responsible for ensuring the quality of work, proper implementation of the codal formalities and compliance with the design and specification.
- The LDs shall randomly visit at least 30% projects per district to ensure proper implementation and execution.
- Technical supervision of the LDs shall be in accordance with the GoKP system, consisting of an indicative visit plan to be followed broadly, while preparing a project specific visit plan.
- At the time of next installment to the CBO, inspection and certification by the LDs about meeting the milestones and quality aspects of codes, standards and specifications is a mandatory requirement.

4.3.2 Pool of Engineers (PoE)

They will be working under the technical supervision of the heads of respective LDs, and will be performing the following tasks:

- Assisting the respective LDs in all aspects of the CBO lead infrastructural initiatives, as desired by the departmental heads.
- Facilitating the LDs in the planning and designing stage for vetting of design documents, quality of drawings along with details and scale, BoQs checking and its pricing, including its conformity and congruence to the ground situation.
- Setting and laying out of the project (after the conclusion of grant agreement) as per the dimensional details and orientation to climatic, social, environmental and safety considerations.
- Supervising and inspecting the technical aspects as per the given specifications, codes, standards and the best engineering practices.
- Conducting stepwise guidance of the CBOs for smooth execution of work once the physical work has commenced.
- Conducting 100% visits of the assigned projects to ensure the quality of delivery and timeliness.
- Coordinating with the respective Assistant Commissioner of the tehsil for their performance and job related functions.

The visits schedule of the LDs and the PoEs to the project sites will be as per following broad frequency[2]:

TECHNICAL SUPERVISION, INSPECTION AND QUALITY ASSURANCE VISITS	
S/n.	Purpose
01.	Checking the engineering codes, standards, specifications and quality of materials procured, or samples of the materials delivered at site, for the project to ensure that the pre-execution quality control measures and technical inputs are in place.
02.	Facilitating the CBOs with the physical on site layouts of various components of the project as per the approved design and dimensions, for initiation of physical work.
03.	Monitoring and supervising the physical work on site after 15% - 20% of the work has been done to check and verify both the quality and quantity at site and also to monitor work progress to ensure timely completion.
04.	Measuring the work done at site for validation of quality and quantity for the next (second) installment.
05.	Monitoring and supervising the physical work on site after 45% - 50% of the work has been done to check and verify both the quality and quantity at site and also to monitor work progress to ensure timely completion.
06.	Monitoring and supervising the physical work on site after 75% - 80% of the work has been done to check and verify both the quality and quantity at site and also to monitor work progress to ensure timely completion.
07.	Measuring of the final work done at site for validation of quality and quantity for next (third) installment and for final completion certificate.

4.3.3 District Field Engineers (TA Team)

The district field engineers of the TA team are based in each of the six CDLD target districts (Chitral, Dir Lower, Dir Upper, Malakand, Shangla and Swat). Broadly, their roles and responsibilities will be as under:

- Coordination amongst various CDLD related stakeholders at the district levels, i.e. district administration, LDs, PoEs, Social Mobilisation Partner (SMP)[3], CBOs and all others.
- Facilitation in holding various review and scrutiny TEC meetings of first applications and detailed proposals in coordination with the District Officer Finance and Planning (DO F&P) and the respective LDs.

[2] Ibid, page # 13.

[3] Sarhad Rural Support Programme (SRSP) has been contracted out by European Union (EU) to work as SMP, along planning, designing and estimation of CBO schemes.

- Documentation of the TEC proceedings, along with the technical shortfalls of the detailed proposals and facilitation of the TEC to forward the same to SMP for their reworking.
- Facilitation of the PoEs to ascertain the knowledge level of various committees and their level of preparedness before the commencement of physical work.
- Provision of capacity building of PoEs (besides LDs and SMP) through on-the-job trainings.
- Occasionally, visiting the CBO schemes under implementation for ascertaining adherence to project milestones, engineering specifications and the quality aspects.

4.3.4 Community Based Organisations (CBO)

Being the proponents of the demanded scheme, CBO members are the principle beneficiaries and its custodians. Hence, they have to shoulder the maximum responsibilities. Besides its physical execution, they will also be responsible for its post-completion O&M throughout its useful life span. It is a widely acknowledged universal truth that an infrastructural scheme with good quality, design and execution has lesser O&M costs and higher useful life span.

In the light of this perspective, the CBOs will be responsible for following:

- Check the detailed design drawings and summary of materials for ascertaining its on-ground replication vis-à-vis the trained artisans and craftsmen, availability of formwork (shuttering) and materials with ease and convenience.
- CBOs will cooperate with and facilitate the visiting LDs and PoEs for inspecting their schemes under execution in all respects.
- Make all out efforts to follow the agreed milestones and timeframes for completing their work, without comprising the quality.
- Give verifiable proof that all their committees and sub-committees are coached, groomed and trained for undertaking the physical work by fully understanding the respective roles and responsibilities of all.
- Members or appointed representatives of the CBOs will cooperate with all stakeholders visiting their site, such as district administration, LDs, PoEs, or anyone else from CDLD Programme.
- CBOs will ensure that all the necessary record is available on site and can also be produced to the visiting officials on demand.

- Supervisory Committees of the CBOs will invariably ensure its on-site presence as long as the construction work is being executed at any time of the day, throughout its execution period.
- Supervisory Committees of the CBOs will also ensure that execution work is being conducted as per design, drawings, codes, specifications and best engineering practices. For any untoward occurrence, which adversely affects the execution and timeframe, an immediate report will be submitted to all concerned.
- During execution phase, the Project Committees of the CBOs will also ensure close association with their O&M Committees, which have to keep themselves informed and updated regarding the post-completion O&M of the schemes.

4.3.5 Third Party Audit

Finance Department will be arranging an external monitoring through hiring a Third Party Agent to undertake physical asset verification as well as continuous audit of the projects funded by the CDLD. The auditor(s) will submit quarterly reports with recommendations to the concerned Deputy Commissioner as well as PCRC through the Reforms Monitoring Unit, which will cover both the CDLD projects' specific observations as well as systemic issues to improve the CDLD Policy and its implementation. Finance Department and the District Development Committees (DDC) shall take appropriate action in the light of the Third Party Audit findings.

4.4 Document Control

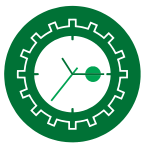
It is the responsibility of the district government to ensure that SMP have developed adequate capacities of the CBOs to document the execution work of their respective schemes. The broad outlines of such documentation will mainly comprise of the following:

- Record of financial management, along with supporting documents like expense and receipt vouchers.
- Detail of procured materials, along with quantities and costs.
- Roster and attendance register of skilled and unskilled labour.
- Register for recording minutes of meetings, resolutions and any other business.
- Visitors' register for recording their visits in the shape of comments, suggestions and observations.
- At site stock register displaying the daily expenditures and the balance.
- Record of daily expenditure and routine expense.

5 IMPLEMENTATION STEPS

QA/QC is not a one-time affair. Rather, it is a constant and continuing process which starts from the inception, is seen during planning and designing, and rolls through implementation, right till completion. During post-completion era of O&M, it runs along the entire useful life span of the scheme, which may well be across decades. Hence, the QA/QC process will be carried forward through a stepwise approach, leading to the following steps in a chronological sequence:

5.1 Step I - Planning and Designing



CDLD Programme will be implemented by the respective beneficiaries, who are mostly the village folks without any technical engineering or project management knowledge. Hence, planning and designing must be simple and practicable, as possible, ensuring that:

- Formworks are simple and locally available.
- All construction materials can be procured from the nearest market.
- Craftsmanship is available within the area of work.
- CBOs can read and understand the drawings and specifications.

This aspect can be ascertained well before TEC's technical approval and onwards submission to DDC[4]. The proposed template for this purpose is attached as **Annex I**.

5.2 Step II - Setting Out, Layout and Commencement

Infrastructural interventions have a long lifespan, which continue to disseminate tangible benefits for even decades. Hence, its layout has to be commensurate with its basic purpose, so that the resources could be judiciously utilised. This aspect of the schemes must be treated with utmost care and diligence, as it cannot be corrected at any later stage once the implementation work has commenced.

This step is advised to be completed at the time of verifying the design drawings vis-à-vis its ground orientation, well before the TEC-II meeting[5]. The proposed template for this purpose is attached as **Annex II**.

[4] PoEs will also facilitate the LDs for such inputs.

[5] Ibid.

5.3 Step III - CBO's Level of Preparedness

During the social mobilisation process, it is the responsibility of SMP to educate, groom and train the CBOs for undertaking physical implementation of their sanctioned schemes. In case the CBOs are not trained up to the required level, it is apprehended that a good quality work cannot be ensured. Hence, it may result in resource wastage.

It will, therefore, be imperative to ascertain the CBOs' credentials vis-à-vis their receptiveness for the potential implementation work. For this purpose, the primary focus will be the implementation committee, office bearers and procurement committee members. They must know the basic dynamics of construction, behavior of cement, thumb rules of stone construction, back-fill thrust and the importance of long-term maintenance. In addition to the basic dynamics of civil works, following managerial aspects of the CBO are also to be ascertained:

- Procurement plan.
- O&M plan during post-completion era.
- Financial management plan.
- Skilled labor procurement plan.
- Plan for all others, like formwork, etc.
- Verifiable plan for the agreed in kind contributions.

The proposed template for collection of this information is attached as **Annex III**.

If CBO's level of preparedness is unsatisfactory, the matter will be referred back to SMP. They will be asked to conduct their coaching and grooming about the construction and quality aspects of their respective schemes, preferably in a day long workshop, where presence of CBO's Implementation Committee members will be mandatory. Due efforts will be made to ensure presence of TA Engineers, PoE and the respective LD representatives. The same test will be re-conducted.

5.4 Step IV - Inspection, Verification and QA/QC Visits

After having ascertained CBO's level of preparedness, if found satisfactory, recommendations will be made to the district administration for issuance of work order. It will be a formal permission to start the construction work. Otherwise, the case will be referred to SMP for further coaching and grooming the CBO to enhance its level of preparedness vis-à-vis the category of the infrastructural scheme.

After the commencement of construction work, the Engineers will make several inspection and QA/QC visits to determine a variety of different parameters, adherence to design and specifications, targeted milestones and timeframe, quality issues and any other impediments faced by the CBO. Such inspection and QA/QC visits will be conducted, recorded and reported as per the proposed template attached as **Annex IV**.

In such visits, a variety of observations will be recorded by the visiting Engineer. Besides quantitative measurements, the qualitative aspects will also be recorded. They will be measuring the work done, which will be recorded in the measurement book (MB), as per the departmental norms and procedures. A specimen of the MB is attached as **Annex V**.

All site visits by any CDLD related stakeholder will be participatory. The templates will be filled on site, which will be duly acknowledged by the CBO representative affixing their signatures and dates. The visitor will prepare two copies, one will be handed over to the CBO and the second will retained for office records. One attested photocopy by the visiting person will be sent to the following for their records and further necessary actions:

- District administration, i.e. DO F&P.
- Respective heads of LDs.
- District Coordinators of the TA Team.
- Office copy.

6 CONCLUSION SUMMARY

Every visit to the site of work, irrespective of time and occasion, must have an orientation towards adherence to engineering codes, pre-spelled out specifications and the best engineering practices. In such a manner, these efforts will automatically lead to a better quality, which cannot be compromised at any stage of the construction process. Experiences have revealed that a good quality work has minimal operating costs and running expenses, which ensures long-term reliability, sustainability and operational economy.

In every visit, the CBO members have to be educated, groomed and inculcated that they are the ones who would reap long-term tangible benefits, if a good quality work is executed as per the given parameters. In view of the potential O&M responsibilities devolving upon the beneficiaries, CBO members have to ensure that stringent quality controls are exercised at every step of their project under execution.

Hence, it is imperative upon all stratifications of the Engineers associated with the CBOs, to make them quality conscious through constant grooming, on-the-job training and professional mentoring.

Annex-1: Planning and Designing Quality

Registration number:	Reported by:	Date:
Project title:		
CBO name:		
Location:		District: Tehsil:
1. Drawings:	Details:	Remarks:
	□ Scale □ 2D / 3D? □ Balanced □ Too little □ Too much □ Confusing □ X-Sections □ L-Sections □ Ground orientation	
2. Project description and justification:	□ Balanced □ Too little □ Too much □ Confusing	
3. Pre-pictures:	□ Yes □ No	
4. Bill of quantities:	□ Presentation quality □ Detail levels □ Specifications	
	□ Mathematical check □ Formula check □ Software use - Yes/No	
5. Costing:	Which MRS?	
6. Formwork:	□ Required / Not required □ Type □ Availability - Yes/No	
7. Materials summary:	□ Available? Yes/No	
8. Expansion and extension capacities:	□ Yes □ Too little □ No	

9. Up-gradation capacities:	□ Yes □ No	
10. Social safeguards:	□ Land type / Status □ Land title □ Donated / Purchased □ Ownership status □ Not clear	
Mitigation measures:		
11. Environmental safeguards:	□ Trees under threat □ Tree species □ Threat to wildlife □ Threat to water springs □ Threat to water streams □ Waste disposal □ Any other threats	
Mitigation measures:		
12. Hazard safeguards:	□ Landslide threat □ Flooding threat □ Fire threat □ Earthquake threat □ Any other threats	
Mitigation measures:		
13. Any others:		

Names and signatures of visitors

Name: Designation: Department: Signature: Date:

Annex-2: Setting Out and Layout

Registration number:	Reported by:	Date:
Project title:		
CBO name:		
Location:		District: Tehsil:
CBOs representative(s):		
Climatic conditions:	Temperature (approximate):	Wind:
Summer / Winter dominant:		
General description of site conditions:	Remarks:	
Site pictures: (With description)	Photo 1	Photo 2
	Photo 3	Photo 4
Project orientation vis-à-vis:	Sun? Wind? Dust? Toxic fumes? Noise?	
Any others:		

Names and signatures of visitors[6]	Name and Signature of CBO Representative
Name: Designation: Department: Signature: Date:	Name: Designation: Department: Signature: Date:

[6] If there are more than one visitors, or more than one CBO members, additional names and their signature can be obtained at the end / back of the page.

Annex-3: CBO Level of Preparedness

Registration number:		Reported by:	Date:
Project title:			
CBO name:			
Location:			District: Tehsil:
CBOs representative(s):			
Climatic conditions:		Temperature (approximate):	Wind:
Summer / Winter dominant:			
1. Any engineer being CBO's member?			
2. Any contractor being CBO's member?			
3. Any senior mason being CBO's member?			
4. Any other artisan being CBO's member?			
5. CBO's Project Implementation Committee: (Names and trainings received)		Names	Trainings
		1. 2. 3. 4. 5.	
6. CBO's Procurement Committee: (Names and trainings received)		Names	Trainings
		1. 2. 3. 4. 5.	

7. CBO's O&M Committee: (Names and trainings received)	Names	Trainings
	1. 2. 3. 4. 5.	
Any others:		

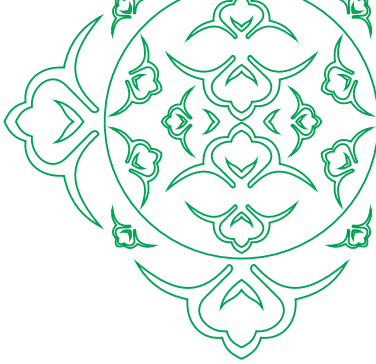
Names and signatures of visitors[7]	Name and Signature of CBO Representative
Name: Designation: Department: Signature: Date:	Name: Designation: Department: Signature: Date:

[7] If there are more than one visitors, or more than one CBO members, additional names and their signature can be obtained at the end / back of the page.

Annex-4: Inspection, Verification and QA/QC Visits

Registration number:		Reported by:		Date:
Project title:				
CBO name:				
Location:				District: Tehsil:
CBOs representative(s):				
Climatic conditions:		Temperature (approximate):		Wind:
Summer / Winter dominant:				
1. Start date:				
2. Completion date:				
3. Percentage of work completed:				
4. General state of work: (Engineer's verification)				
5. Conformance to milestone and timeline:				
6. Conformance to design and specifications:				
7. Conformance to safety:				
8. Conformance to social safeguards:				
9. Conformance to environmental safeguards:				
10. Manpower on site:		Unskilled labour: Skilled labour: Others:		
11. Material on site:		Type	Quantity	Quality	Remarks

12. CBO's contribution:				
a. Manpower	Separate attendance register/muster roll will be maintained, as per the attached specimen, Exhibit I of this annex.			
b. Material:	CBO's resolution, certifying the provision of committed quality and quantity of local material.			
13. Machinery and tools on site:	Type	Quantity	Quality	Remarks
14. Work progress:	Milestone BoQ item number	Percentage progress	Remarks	
15. Non conformances: (Quality aspects)	Milestone BoQ item number	Remarks		
16.Instructions to CBO:	Occasion	Details	Date of rectification	



17. Work progress:	Milestone BoQ item number	Percentage progress	Remarks
18. Site pictures: (With description and elaboration)	Photo 1	Photo 2	
	Photo 3	Photo 4	
19. Any other discussions, meetings or observations:			

Names and signatures of visitors[8]	Name and Signature of CBO Representative
Name: Designation: Department: Signature: Date:	Name: Designation: Department: Signature: Date:

[8] If there are more than one visitors, or more than one CBO members, additional names and their signature can be obtained at the end / back of the page.

Exhibit-1: Muster Roll

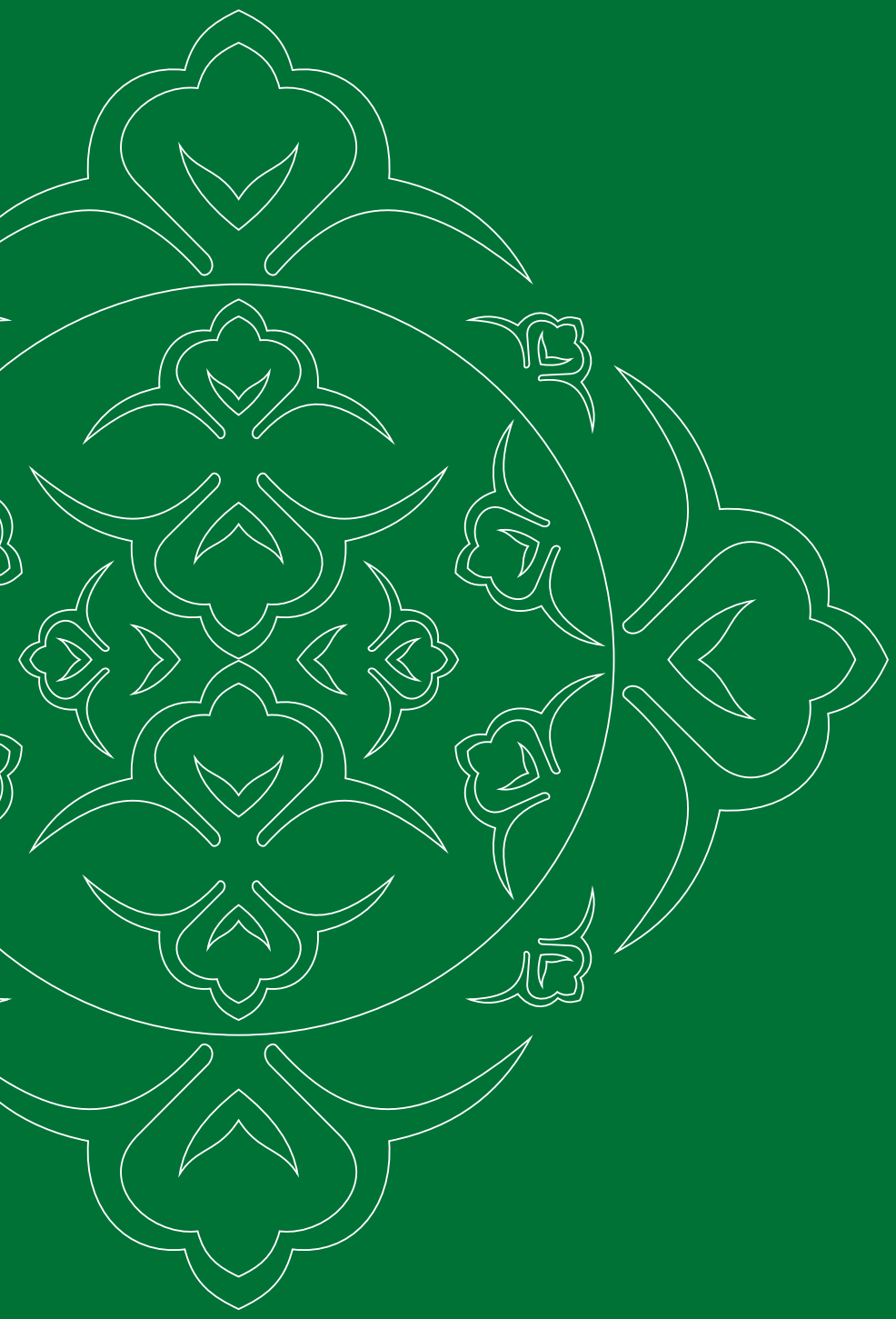
Name of CBO:_____ Scheme Type:_____

Month:_____

S/n	Labor name and CNIC number	Father name	Date																													Signature/ Thumb impression
			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	
1																																		
2																																		
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		

Annex-5: Measurement Book (a specimen)

S/n	Description of item	Number	Length (in meters)	Breadth (in meters)	Depth/Height (in meters)	Quantity	Explanatory notes
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							



Community-Driven Local Development
Government of Khyber Pakhtunkhwa