

Lecture Notes

Developing a Comprehensive Project Budget
for Climate Change and Humanitarian Action Projects

Course: Managing CRHA Projects & Programs — Finance Management & Funding

August 19, 2026

Learning Objectives

By the end of this lecture, you will be able to:

1. Explain the importance of sound financial management for CRHA projects
2. Identify and describe the six basic guidelines for financial project management
3. List the essential inputs required to develop a comprehensive project budget
4. Apply risk management tools (Risk Matrix, Risk Register, EMV) to project financial planning
5. Distinguish between three cost management techniques: Budget vs Actual, Earned Value Analysis, and Forecasting
6. Define the key components of financial policies and procedures
7. Explain the role of communication and reporting in maintaining stakeholder confidence
8. Describe the purpose and scope of regular financial reviews

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1 Introduction — Why Financial Management Matters

Key Concept

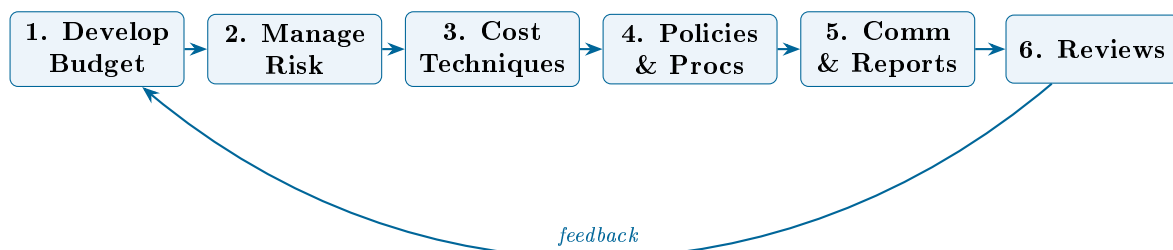
The success of any project — whether small or complex — **depends highly on effective financial management**. When sound financial management practices are absent, projects can quickly become:

- **Over-budget** — spending exceeds planned allocations
- **Unprofitable** — the project delivers less value than it costs
- **Failed** — the project cannot be completed at all

For CRHA projects, the stakes are even higher. Failure is not just a financial loss — it means **communities don't get the support they need** when they need it most.

1.1 The Six Guidelines Framework

The six guidelines function as **integrated pillars** — they work together, not in isolation:



Note for students

These guidelines form a continuous cycle, not a one-time checklist. Guideline 6 (Reviews) feeds back into Guideline 1 (Budget adjustments), creating an ongoing loop of improvement.

2 Guideline 1: Develop a Comprehensive Project Budget

2.1 Why Start with a Budget?

A well-prepared budget is the **financial compass** for your entire project. It:

- Outlines all anticipated costs (personnel, materials, equipment, other expenses)
- Sets the financial direction from day one
- Serves as a **strategic document** communicating priorities and constraints

2.2 The Preparation Principle

Preparation Principle

- The larger and more complex the project, the **more inputs** you need for budget preparation.
- The more effort you put into preparation, the **better your estimates** will be.

Better estimates → Better resource allocation → Significantly increased chance of project success.

This is a **direct correlation** — cutting corners in budget preparation almost always results in costly surprises later.

2.3 Seven Essential Inputs for Budget Development

#	Input	Why It Matters for Budgeting
1	Project Charter	Without it, you have no mandate and no starting point for your budget
2	Project Management Plan	Provides the framework within which your budget must operate
3	Schedule Management Plan	Time and money are deeply connected — your schedule drives your costs
4	Project Calendars	Knowing when work can happen is essential for accurate cost estimation
5	Risk Management Plan	Every risk carries a potential cost — your budget must account for it
6	Risk Register	Tells you exactly what risks you're dealing with and their potential financial impact
7	Work Breakdown Structure (WBS)	Most powerful budgeting tool — breaks the project into manageable pieces for granular cost estimation

2.4 The WBS in Depth

The WBS is highlighted as the most powerful budgeting tool because it enables **granular cost estimation**.

Example — Building an Evacuation Center

Instead of estimating “build an evacuation center” as one lump sum, the WBS decomposes the project:

```
Evacuation Center (Level 1)
+-- Foundation (Level 2)
|   +-- Site preparation
|   +-- Concrete pouring
|   +-- Reinforcement
+-- Structure (Level 2)
|   +-- Walls
|   +-- Roof framing
|   +-- Roofing materials
+-- Systems (Level 2)
|   +-- Electrical
|   +-- Plumbing
|   +-- Ventilation
+-- Finishes (Level 2)
    +-- Flooring
    +-- Painting
    +-- Fixtures
```

Each Level 2 component can be broken down further (Level 3), and each element gets its own cost estimate. This dramatically improves accuracy and enables detailed tracking during execution.

2.5 From Inputs to Output

Once all inputs are gathered, the budgeting process produces:

1. **Cost Management Plan** — how costs will be planned, structured, and controlled
2. **Cost Estimates** — quantified predictions for each budget line item
3. **Project Budget** — the approved, consolidated financial plan

3 Guideline 2: Manage Project Risk

3.1 The Continuous Nature of Risk

Key Principle

Financial risk does not exist in isolation — it is present throughout the **entire life** of a project. Risks must be identified and managed **continuously**, not just at the beginning.

3.2 Key Risk Management Tools

3.2.1 A. Risk Matrix

A two-dimensional tool for assessing **likelihood** and **impact**:

Low N H	ACCEPT	ACCEPT	MONITOR
	ACCEPT	MONITOR	MITIGATE
	MONITOR	MITIGATE	URGENT ACTION
	Low Impact	Medium Impact	High Impact

3.2.2 B. Four Types of Risk

Risk Type	Definition	CRHA Project Example
Strategic	Affects the overall direction and goals	A government policy change shifts priorities away from your project's objectives
Compliance	Related to legal, regulatory, or donor requirements	Failure to meet donor reporting deadlines or local procurement regulations
Operational	Arising from day-to-day activities and processes	Supply chain disruptions delaying construction materials to a remote island
Financial	Related to costs, exchange rates, funding gaps, and financial controls	Currency depreciation reducing the purchasing power of donor funding

3.2.3 C. Risk Register

A **living document** that:

- Identifies all risks
- Outlines actions to avoid or reduce each risk
- Should be **updated regularly** as new risks emerge
- Should be **linked to the budget** — each risk has an estimated financial impact
- Should have **assigned owners** — someone responsible for monitoring

3.2.4 D. Expected Monetary Value (EMV) Method

A statistical technique to **quantify risk in financial terms**:

EMV Formula

$$\text{EMV} = \text{Probability of Risk Occurrence} \times \text{Expected Cost of Impact}$$

Worked Example

There is a **30% chance** that cyclone damage will cause **50,000 vatu** in additional costs:

$$\text{EMV} = 0.30 \times 50,000 = \mathbf{15,000 \text{ vatu}}$$

This 15,000 vatu should be set aside as a **contingency reserve** in your budget.

Multiple-risk example for a community water supply project:

Risk	Prob.	Impact (VT)	EMV (VT)
Cyclone delays construction by 2 weeks	25%	80,000	20,000
Supply price increase for PVC pipes	40%	30,000	12,000
Staff illness reduces labor capacity	15%	50,000	7,500
Total Contingency Reserve			39,500

3.3 The Purpose of Risk Management

Effectively managing risk ensures:

- You **don't spend over budget**
- You **can pay your workers** on time
- You **have enough money for materials** when needed
- You **avoid spending on unnecessary risks** that can break your budget

4 Guideline 3: Use Effective Cost Management Techniques

4.1 A Budget Is Not a Set-and-Forget Document

Projects are dynamic — costs change, timelines shift, circumstances evolve. Project managers must **promptly identify and address any variances** from the budget.

4.2 Technique 1: Budget vs Actual

The most **common and straightforward** method. Compares your project budget to your actual costs:

$$\text{Variance} = \text{Actual Cost} - \text{Budgeted Cost}$$

Worked Example — Community Evacuation Center

Line Item	Budget (VT)	Actual (VT)	Variance	Var. %	Status
Foundation	200,000	195,000	−5,000	−2.5%	On track
Roofing	150,000	180,000	+30,000	+20%	Over budget
Electrical	80,000	40,000	−40,000	−50%	Under-spent
Labor	300,000	310,000	+10,000	+3.3%	Slight over

Interpreting variances:

- **Unfavorable variance** (actual > budget) = You spent more than planned → investigate why
- **Favorable variance** (actual < budget) = You spent less than planned → investigate why (might indicate scope cuts or quality issues, not just savings)

4.3 Technique 2: Earned Value Analysis (EVA)

A **more sophisticated** technique that measures project progress by combining schedule and cost data.

Value	Definition	What It Tells You
Planned Value (PV)	What you expected to spend by this point	Your baseline
Earned Value (EV)	The budget amount for work actually completed	The value you've earned
Actual Cost (AC)	What you actually spent	Your real expenditure

4.3.1 Key Performance Indicators from EVA

Cost Performance Index (CPI)

$$CPI = \frac{\text{Earned Value}}{\text{Actual Cost}} = \frac{EV}{AC}$$

- CPI > 1.0 → Under budget — getting more than 1 vatu of value for every vatu spent
- CPI = 1.0 → On budget
- CPI < 1.0 → Over budget — getting less than 1 vatu of value for every vatu spent

Schedule Performance Index (SPI)

$$SPI = \frac{\text{Earned Value}}{\text{Planned Value}} = \frac{EV}{PV}$$

- SPI > 1.0 → Ahead of schedule
- SPI = 1.0 → On schedule
- SPI < 1.0 → Behind schedule

Worked Example

$$PV = 200,000 \text{ VT} \quad | \quad EV = 180,000 \text{ VT} \quad | \quad AC = 210,000 \text{ VT}$$

- $CPI = \frac{180,000}{210,000} = \mathbf{0.86}$ → Over budget (getting 86 vatu of value for every 100 spent)
- $SPI = \frac{180,000}{200,000} = \mathbf{0.90}$ → Behind schedule (completed 90% of the work planned)

Student Tip

Always calculate both CPI and SPI together. Being under budget might look good, but if SPI < 1.0, it could mean you're under budget only because work is behind schedule — not because you're efficient.

4.4 Technique 3: Forecasting

Forecasting uses **current trends and variances** to predict potential cost overruns or savings **before they become crises**.

It enables project managers to:

- See problems approaching and take corrective action early

- Adjust resource allocation proactively
- Communicate expected outcomes to stakeholders in advance
- Avoid the “surprise factor” at project close-out

Key Distinction

- **Budget vs Actual** tells you where you *are*
- **EVA** tells you how you’re *performing*
- **Forecasting** tells you where you’re *heading*

4.5 Using the Three Techniques Together

Technique	Best For	Frequency	Insight
Budget vs Actual	Quick snapshot	Weekly/bi-weekly	Surface
Earned Value Analysis	Deep analysis	Monthly/milestones	Diagnostic
Forecasting	Future outcomes	Monthly, updated	Predictive

Using only one technique gives an **incomplete picture**. Use all three for comprehensive cost management.

5 Guideline 4: Establish Clear Financial Policies & Procedures

5.1 What Are Financial Policies and Procedures?

A set of guidelines that govern how financial transactions are handled. They ensure all transactions are:

- **Properly documented**
- **Tracked**
- **Reported accurately**

5.2 Why Establish Them Early?

The Fence Principle

Trying to create financial rules while you are already spending money is like building a fence after the horses have run away.

If policies are established after the project starts:

- Financial transactions may have already occurred without proper documentation
- Team members may have developed ad hoc practices that are hard to change
- Financial irregularities may have already occurred without detection

5.3 Step 1: Define Roles and Responsibilities

Every person on the team needs to know their financial responsibilities:

- Who **approves expenditures**?
- Who **processes payments**?
- Who **maintains records**?
- Who **reports to whom**?

Accountability Principle

When roles are unclear, accountability breaks down — and that's when financial irregularities can occur.

5.4 Step 2: Address Five Key Financial Areas

Area	Key Questions to Address
Budgeting	How are budgets created, approved, and adjusted? Who has authority to revise line items?
Procurement	How are goods and services purchased? What are the thresholds for competitive bidding? How are vendors selected?
Invoicing	How are invoices issued, received, verified, and processed? What documentation is required?
Payment Process	Who authorizes payments? What documentation is required? Are there dual-signatory requirements?
Financial Reporting	What reports are produced? How often? To whom? What format and standards apply?

5.5 Three Critical Outcomes

When clear financial policies and procedures are in place, you achieve:

1. **Transparency** — All financial activities are visible and understandable to authorized parties
2. **Consistency** — Financial transactions are handled the same way every time, regardless of who is involved
3. **Minimized risk of error, fraud, or financial irregularities** — Clear rules and defined roles reduce opportunities for mistakes or intentional misuse

For CRHA Projects

CRHA projects are often funded by international donors and operate in challenging environments. These outcomes are **not optional** — they are essential for maintaining trust and accountability.

6 Guideline 5: Establish Effective Communication & Reporting

6.1 The Communication Principle

Communication Principle

Even the most accurate budget is useless if the people who need to know about it don't have access to the information. Stakeholders need to understand the **financial health** of the project.

6.2 Key Practices

6.2.1 A. Regular Reporting to Stakeholders

- **Weekly or monthly**, depending on the scale and pace of your project
- Regularity builds confidence and catches problems early
- Stakeholders should know **when to expect reports** and receive them consistently

6.2.2 B. Reports Should Include Key Financial Indicators

Indicator	What It Shows
Budget vs Actuals	How spending compares to plan
Cost Variances	Where and by how much spending deviates
Burn Rates	How quickly the project is consuming funding
Emerging Financial Risks	New or evolving risks that could impact the budget

6.2.3 C. Communication Throughout the Entire Lifecycle

- **Not just when there's a problem**
- **Not just at the end**
- Transparency builds trust, and trust builds support

6.3 Why This Matters Especially for CRHA Projects

CRHA projects typically:

- Receive funding from **multiple sources** (donors, government, community contributions)
- Must meet **high accountability standards** from international donors
- Operate in **challenging environments** where financial oversight is difficult
- Have **diverse stakeholders** with different information needs

Donor Confidence

Effective communication and reporting is not just good practice — it is a **requirement for continued donor confidence and project sustainability**.

7 Guideline 6: Conduct Regular Financial Reviews

7.1 Why Reviews Matter

The Health Checkup Analogy

A project is a living thing — circumstances change, risks materialize, costs shift, and priorities evolve. Regular reviews give you the opportunity to **course-correct before small issues become major problems**.

Just as you wouldn't skip a doctor's appointment if you knew something was wrong, you shouldn't skip financial reviews when your project's financial health is at stake. Early detection leads to better outcomes with less costly interventions.

7.2 What a Financial Review Should Evaluate

7.2.1 Project-Level Assessment

Purpose	Key Questions
Evaluate financial performance	Are you on budget? Are you getting value for money?
Identify areas for improvement	Where can you operate more efficiently? Where are costs running higher than expected?
Adjust the project budget	If original assumptions were wrong, the budget needs to be updated to reflect reality
Provide insights and recommendations	Reviews should produce actionable findings , not just data

7.2.2 Beyond the Project

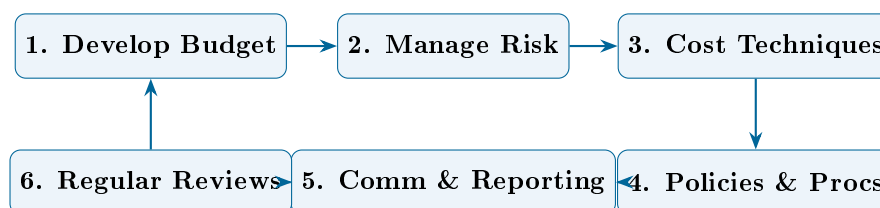
Area	Review Questions
Financial Policies & Procedures	Are they working? Are they being followed? Do they need updating?
Team Training Needs	Do team members have the financial management skills they need? What training should be provided?
Financial Management Tools & Systems	Are accounting systems adequate? Is better software or more robust processes needed?

8 Key Takeaways

#	Guideline	Core Principle	Key Tools / Actions
1	Develop a Comprehensive Budget	Invest in thorough preparation	7 inputs → Cost Plan → Estimates → Budget
2	Manage Project Risk	Identify and manage risks continuously	Risk Matrix, 4 Risk Types, Register, EMV
3	Use Cost Techniques	Monitor costs actively, not passively	Budget vs Actual, EVA, Forecasting
4	Policies & Procedures	Document rules and roles before spending	Roles & responsibilities, 5 key areas
5	Communication & Reports	Keep stakeholders informed proactively	Regular reports, key indicators, lifecycle
6	Regular Financial Reviews	Course-correct before issues become major	Performance evaluation, improvement

8.1 The Guideline Cycle

The six guidelines form a **continuous improvement cycle**:



9 Scaling Financial Management by Project Size

The principles remain the same — the **level of formality and sophistication** scales with project size:

Aspect	Small Community Project	Large Multi-Year Program
Budget complexity	Simple cost estimate; few line items	Detailed WBS with hundreds of cost items
Risk management	Basic risk register; informal monitoring	Formal Risk Matrix + EMV + dedicated risk owner
Cost management	Budget vs Actual (monthly)	Full EVA + Forecasting (weekly/-monthly)
Policies	Simple written guidelines	Comprehensive policy manual with approval hierarchies
Communication	Monthly community/donor updates	Weekly dashboards + monthly stakeholder reports
Reviews	Quarterly check-ins	Milestone-based reviews + external audits

10 Common Mistakes to Avoid

Mistake	Guideline	Consequence
Creating a budget with only rough estimates	G1	Large cost overruns; inaccurate planning
Only identifying risks at project start	G2	Unprepared for emerging risks mid-project
Not monitoring actual costs against budget	G3	Overruns discovered too late to correct
Starting spending before policies are in place	G4	Unclear accountability; potential for irregularities
Only communicating finances when problems arise	G5	Eroded stakeholder trust; reactive crisis management
Skipping financial reviews due to time pressure	G6	Small issues grow into major problems undetected

11 Review Questions

Test your understanding of the lecture material:

- Q1.** List all six guidelines for sound financial project management and explain how they interconnect.
- Q2.** You are planning a community rainwater harvesting project. What seven inputs do you need before you can develop a comprehensive budget? Briefly explain why each is necessary.
- Q3.** Explain the Expected Monetary Value (EMV) method. If there is a 20% probability that a supplier delay will cost 60,000 vatu in additional labor costs, calculate the EMV and explain what you should do with it.
- Q4.** A project has a Planned Value of 300,000 VT, an Earned Value of 270,000 VT, and an Actual Cost of 285,000 VT. Calculate the CPI and SPI, interpret the results, and recommend what the project manager should do.
- Q5.** Your project's roofing costs are 25% over budget, but electrical costs are 40% under budget. Explain why both variances need investigation — not just the overrun.

- Q6.** A new CRHA project is about to start. The team wants to begin spending immediately and write the financial policies later. Using Guideline 4, explain why this is a mistake and what the consequences could be.
- Q7.** Describe the difference between what Budget vs Actual tells you, what EVA tells you, and what Forecasting tells you. Why is using all three techniques better than using just one?
- Q8.** Explain the four types of risk (strategic, compliance, operational, financial) and give one CRHA-specific example for each.
- Q9.** Why should communication about financial performance happen throughout the entire project lifecycle, not just when there are problems? What are the risks of only communicating during crises?
- Q10.** A financial review reveals that your project's accounting system cannot track costs by WBS element. Which guideline does this finding relate to, and what action should you take?

Further Reading & Resources

- **Project Management Institute (PMI).** *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* — Sections on Cost Management, Risk Management, and Stakeholder Communication
- **PMBOK Guide, 7th Edition** — Performance Domains: Planning, Measurement, and Project Work
- **Vanuatu Government Project Management Guidelines** — Local procurement and financial reporting requirements for donor-funded projects
- **Pacific Humanitarian Team (PHT) Financial Accountability Standards** — Donor compliance requirements for CRHA projects in the Pacific region

Lecture notes based on the presentation “Developing a Comprehensive Project Budget for Climate Change and Humanitarian Action Projects” — adapted from the CRHA Finance Management & Funding course materials.