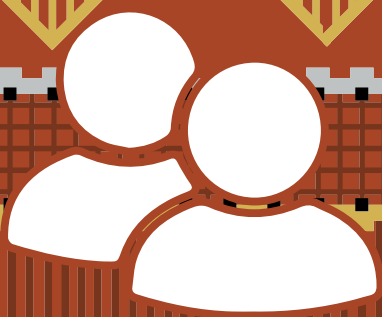


SOCIAL PROCESS

INFORM THE TRIBAL LEADER

SOCIAL PROCESS

A

Schedule a meeting with the tribal leader to discuss about the initiative and how to mobilize community participation.

INFORM THE TRIBAL LEADER

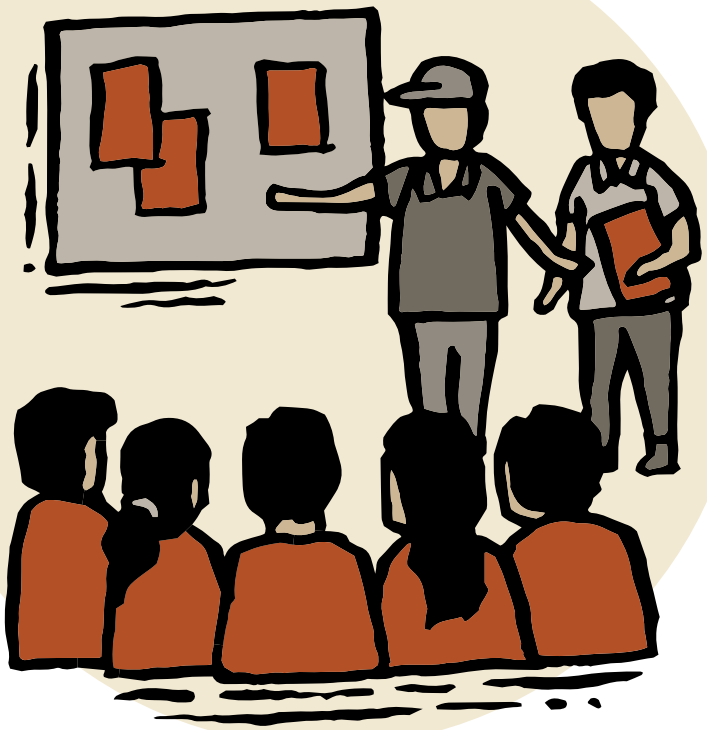
SOCIAL PROCESS

B

The tribal leader's role is to ensure effective engagement in the rural development initiative and foster a collaborative approach

COMMUNITY CONSULTATION

SOCIAL PROCESS

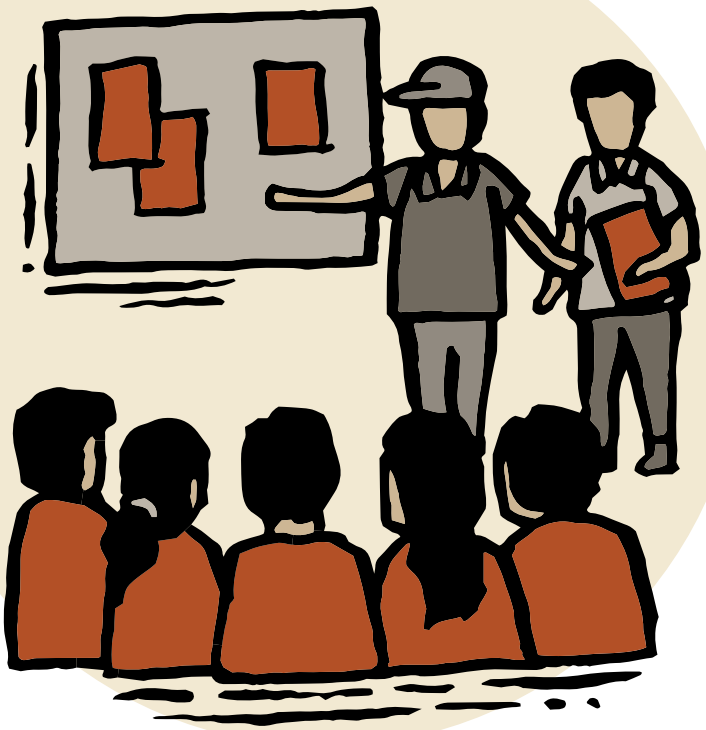


A

Ensure the project aligns with the needs and concerns of the local community.

COMMUNITY CONSULTATION

SOCIAL PROCESS

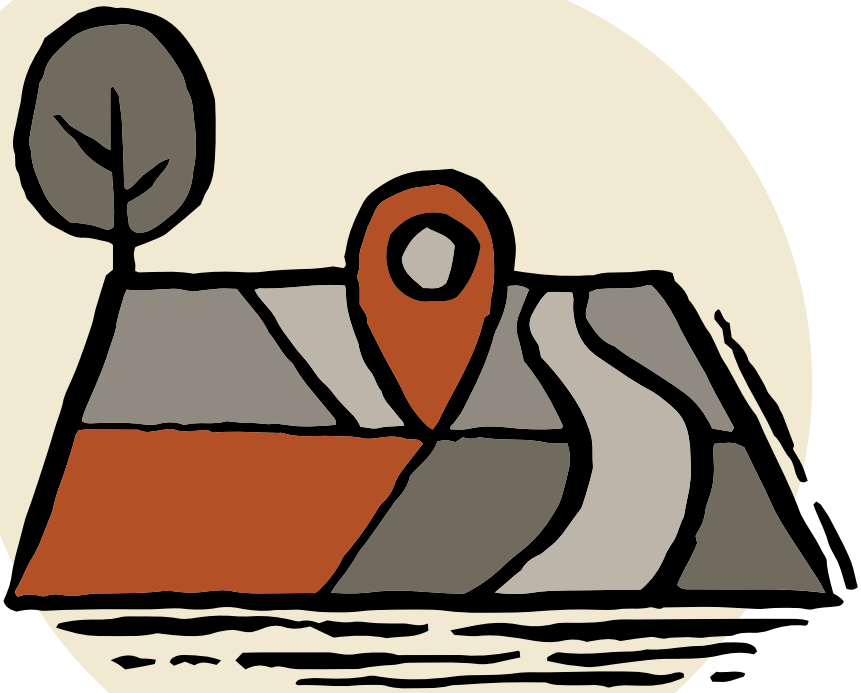


B

Consider the social and cultural factors of the community. Communicating the program's details and implementation plan.

LAND USE CONSENT

SOCIAL PROCESS

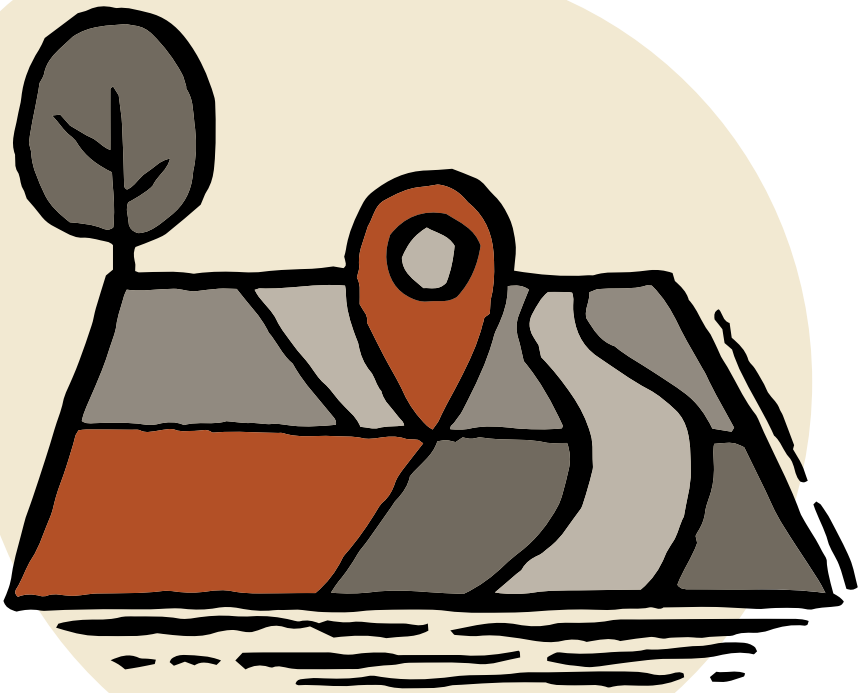


A

Start discussions with affected community members land early in the process to understand potential issues and address them proactively.

LAND USE CONSENT

SOCIAL PROCESS



B

Get permission from land owner to use land or carry out an activity, often requiring consideration of potential environmental or community impact.

TEMPORARY COMMITTEE

SOCIAL PROCESS

A

A short-term task force formed to address a specific project or problem, with the expectation that it will disband once its objective is met.

TEMPORARY COMMITTEE

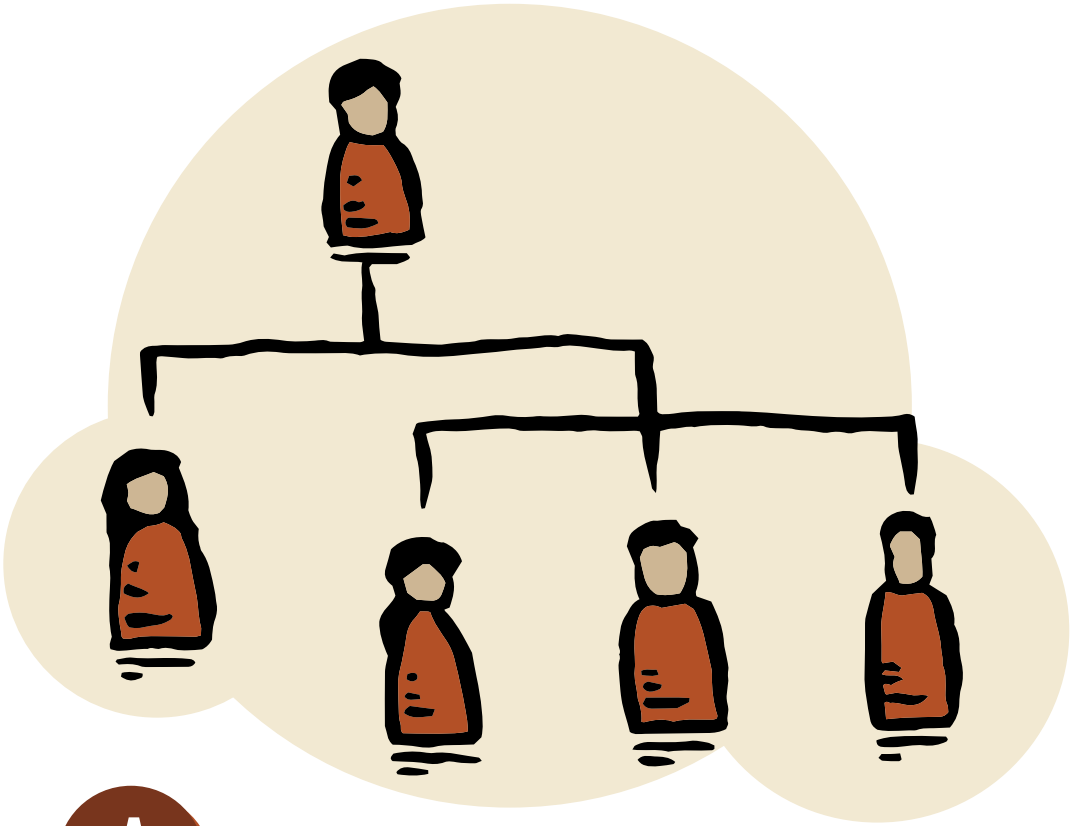
SOCIAL PROCESS

B

Temporary project committee is created to achieve a particular goal or solve a specific issue before the forming of a formal association.

FORMAL ASSOCIATION

SOCIAL PROCESS

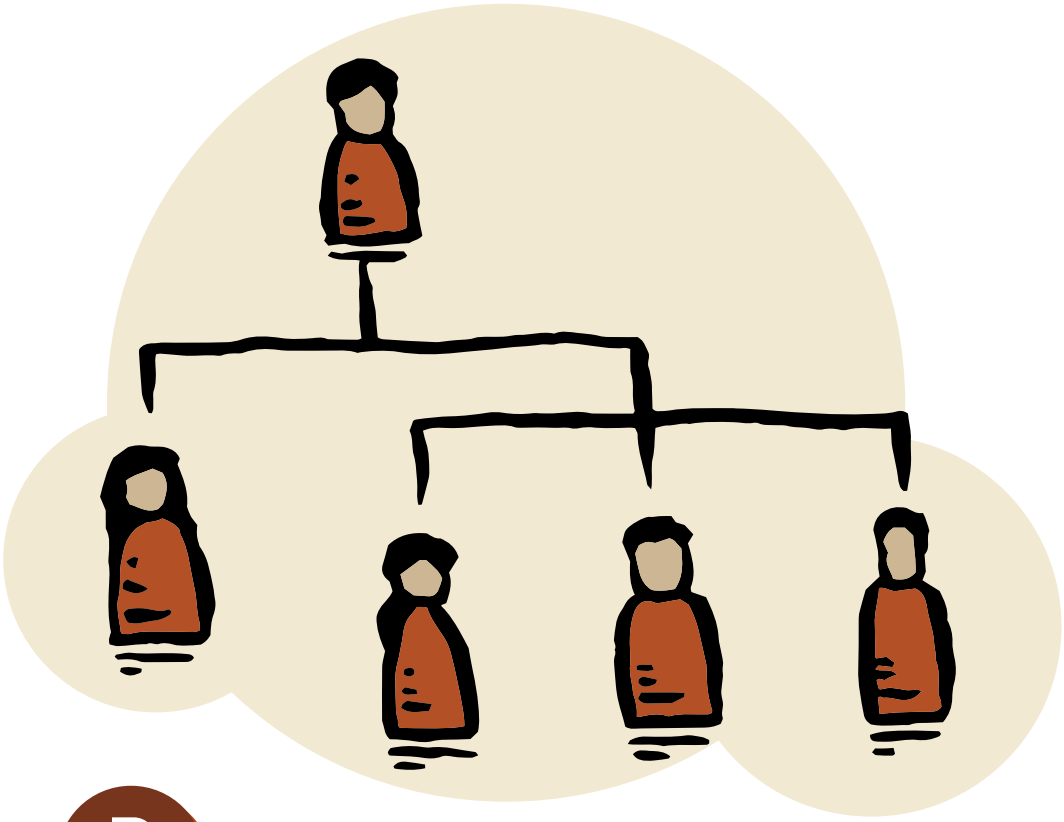


A

A structured organization or group with a defined hierarchy, specific objectives, and a fixed set of rules and procedures for its members

FORMAL ASSOCIATION

SOCIAL PROCESS



B

Example: MHP Association, Water System Association, Women Association

LOCAL GOVERNMENT SUPPORT

SOCIAL PROCESS

A

Local Government Support refers to the various types of assistance provided to local governments, including financial aid from national governments to fund essential services and projects.

LOCAL GOVERNMENT SUPPORT

SOCIAL PROCESS

B

Local government support allows NGOs to provide essential services, including infrastructure, healthcare, waste management, social care, and public transportation, to underserved communities.

LEGAL CONSIDERATIONS

SOCIAL PROCESS

A

Key legal considerations for community projects include securing informed consent and complying with local regulations regarding water usage and rights.

LEGAL CONSIDERATIONS

SOCIAL PROCESS

B

Projects must also foster ethical marketing, practice social responsibility, and maintain transparency to build trust with the community.

INFORM COUNCILORS

SOCIAL PROCESS

A

Councillors are responsible for representing your ward or local area and bringing the community's views to the council.

INFORM COUNCILORS

SOCIAL PROCESS

B

Reach out to elected local government representatives to voice your concerns, or ask for their assistance on community issues.

CONTACT NGO

SOCIAL PROCESS

A

Look for organizations with a mission aligned with community goals and a history of successful projects.

CONTACT NGO

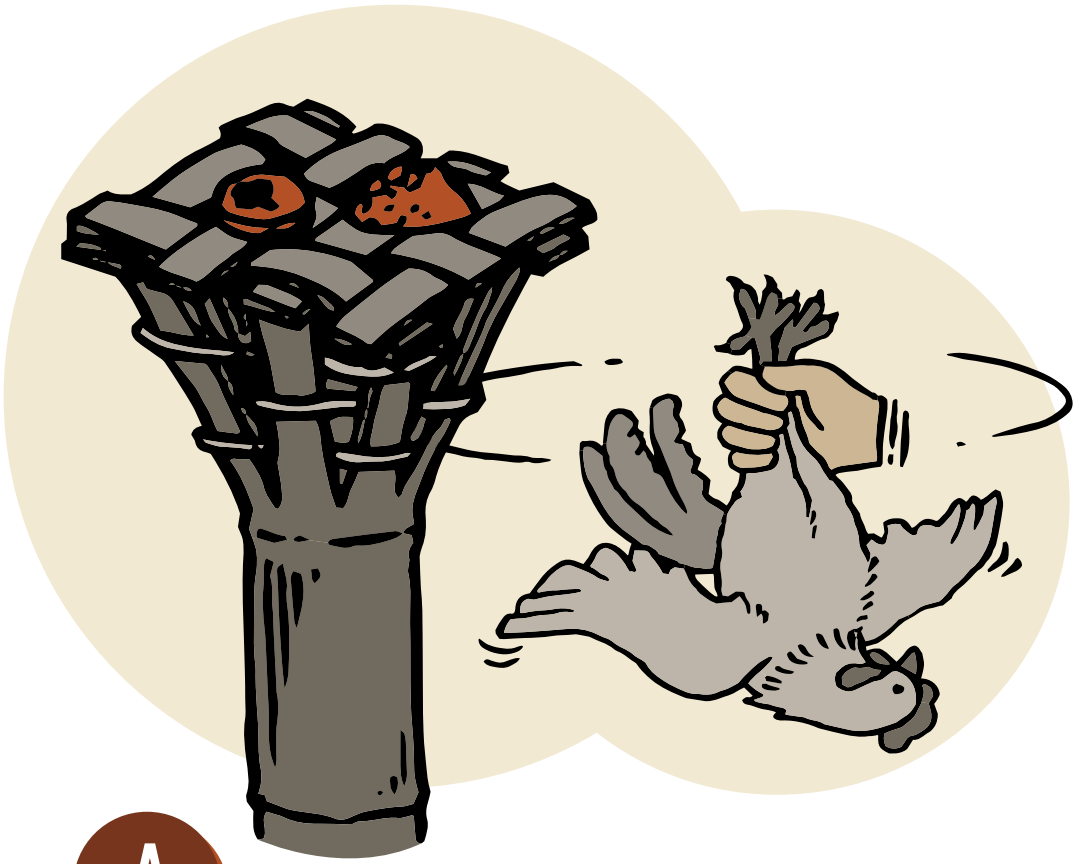
SOCIAL PROCESS

B

Reaching out to the NGO and engaging with them to discuss potential partnerships or funding opportunities.

TRADITIONAL RITUAL

SOCIAL PROCESS

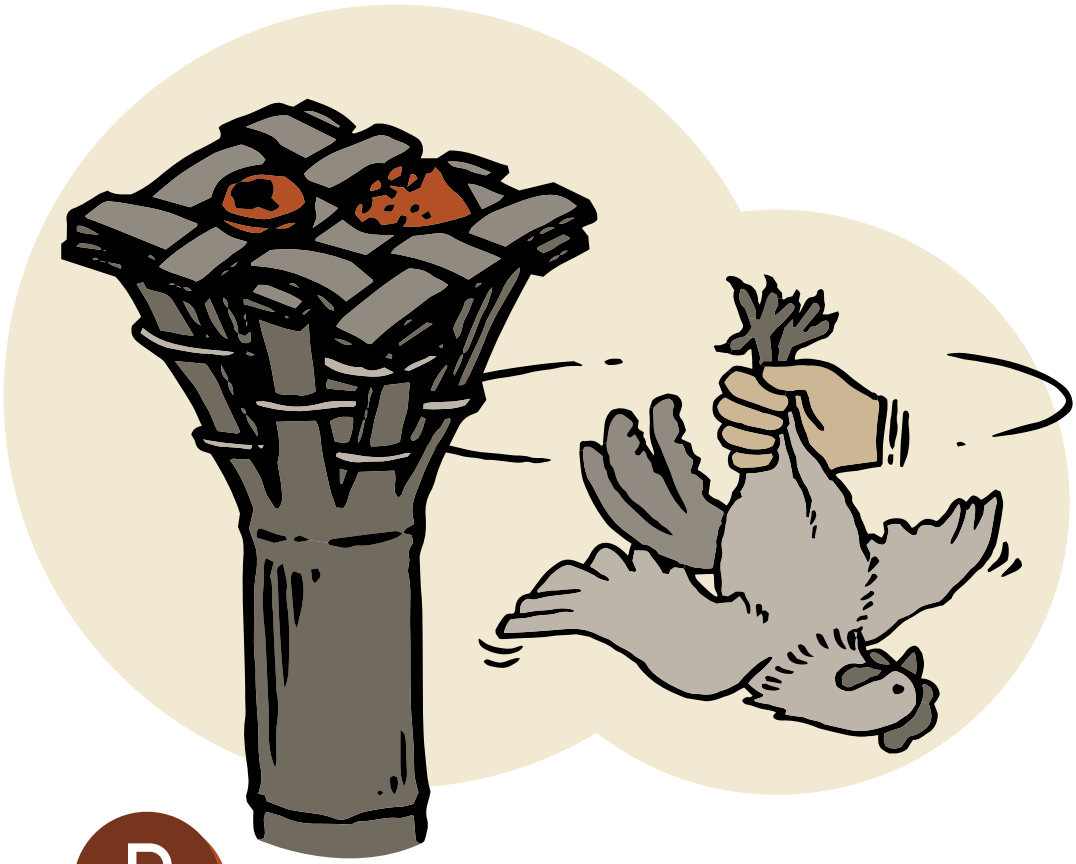


A

A traditional ritual is a sacred practice where a community offers things to the spirits to receive their blessing before starting an activity or construction project.

TRADITIONAL RITUAL

SOCIAL PROCESS



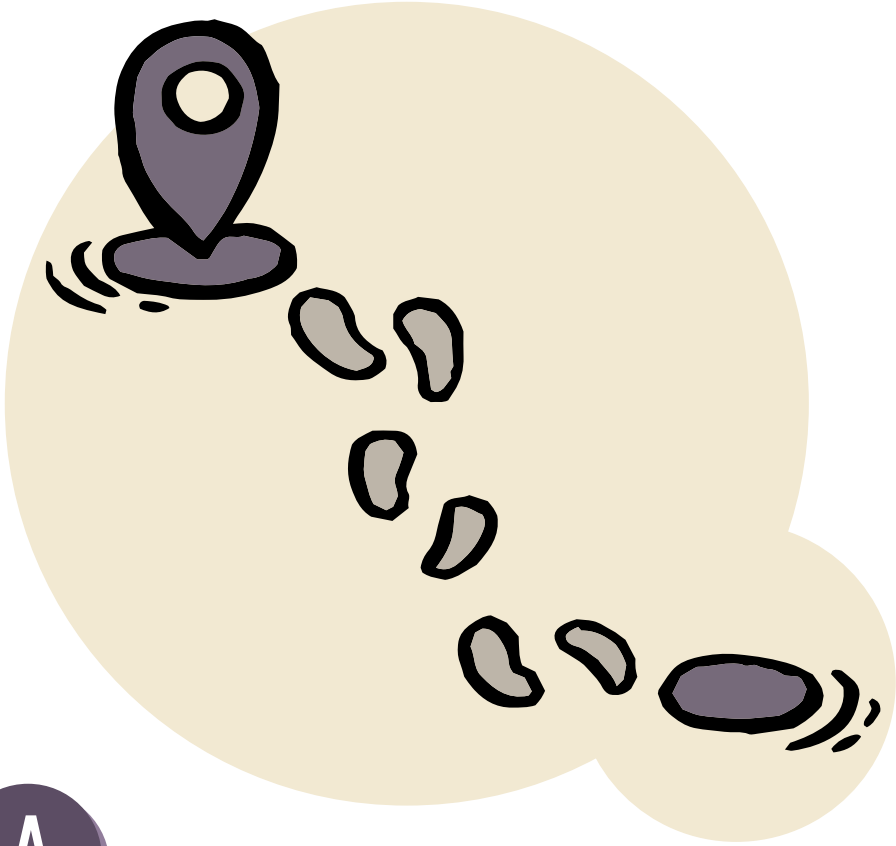
B

The ritual requires offerings such as a coin and cooked rice, which will be placed on a bamboo structure. A white chicken and a white pig are also needed for the ceremony.


FEASIBILITY
STUDY

LOCATION ASSESSMENT

FEASIBILITY STUDY

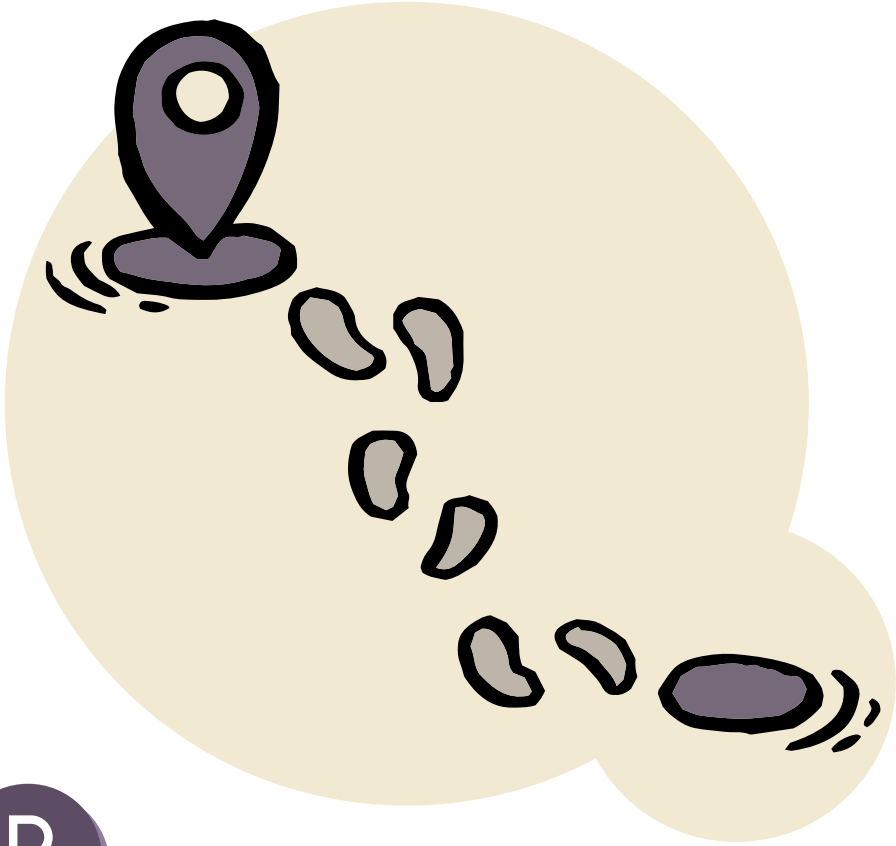


A

Site visit to understand the existing layout and identify potential areas. Review existing infrastructure and consult with local residents.

LOCATION ASSESSMENT

FEASIBILITY STUDY

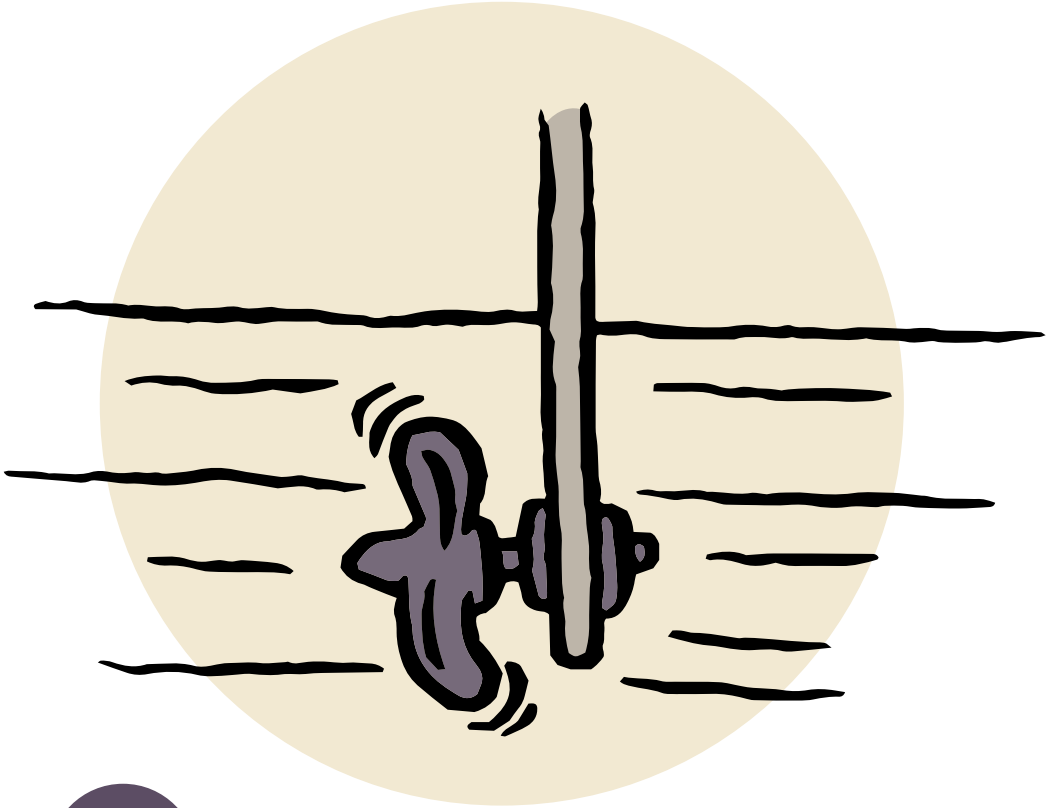


B

Gather information about water flow variations throughout the year, any past flood events, and local knowledge of the stream or river.

FLOW METER METHOD

FEASIBILITY STUDY

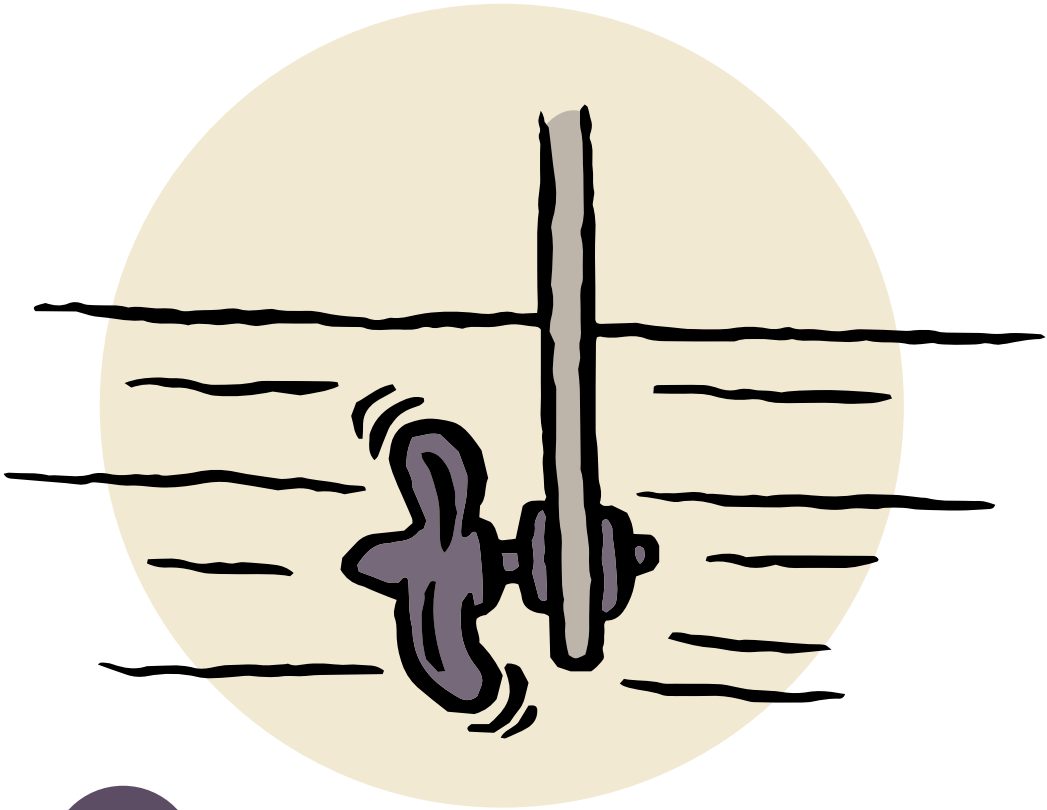


A

A current meter (like a mechanical flow meter or an Acoustic Doppler Current Profiler (ADCP)) is used to measure water velocity.

FLOW METER METHOD

FEASIBILITY STUDY



B

A method with high accuracy, wide measurement range, and suitability for various flow conditions and water qualities.

SALT DILUTION METHOD

FEASIBILITY STUDY

A

The flow rate is determined by measuring the speed and concentration of the cloud of salt using a sensor as it passes downstream.

SALT DILUTION METHOD

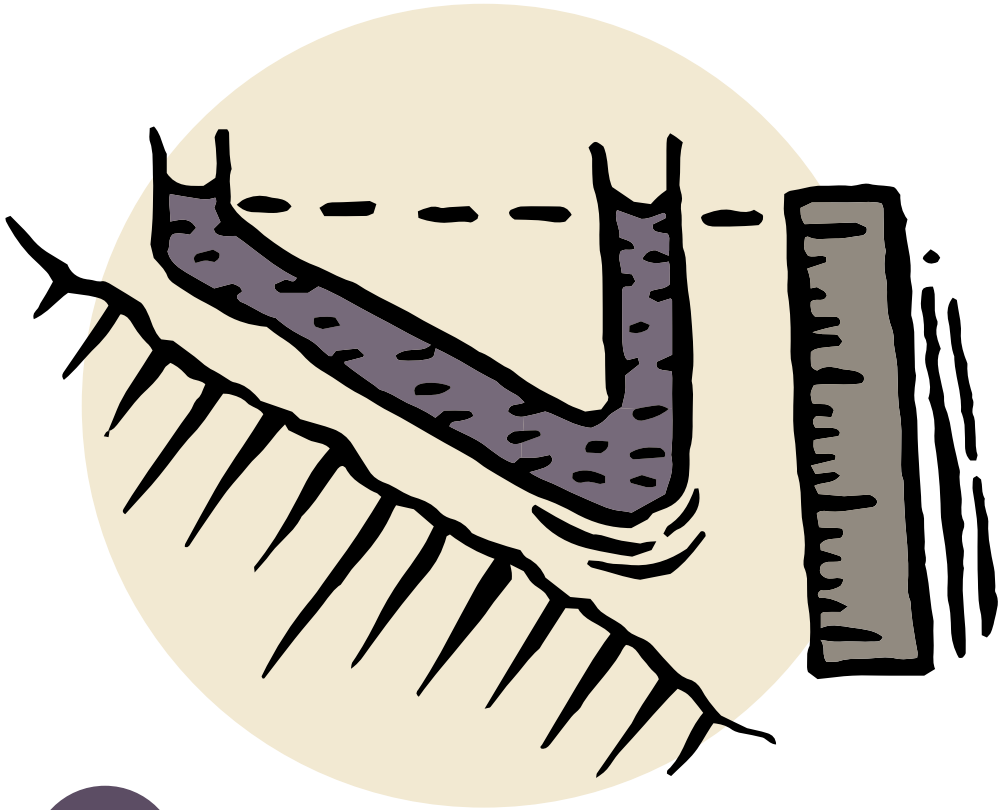
FEASIBILITY STUDY

B

A more accurate way of measuring water speed than the float method which only rides on the top of the water.

HOSE-TUBE METHOD

FEASIBILITY STUDY

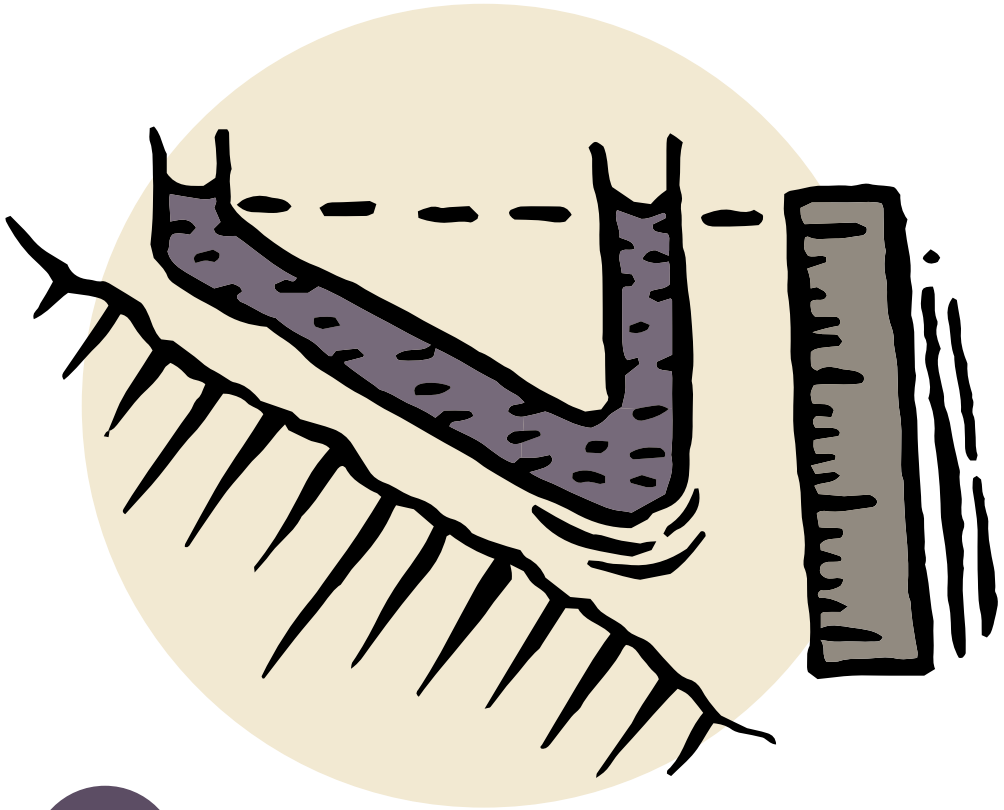


A

Using a hose or tube filled with water to measure the difference in elevation (head) between two points

HOSE-TUBE METHOD

FEASIBILITY STUDY

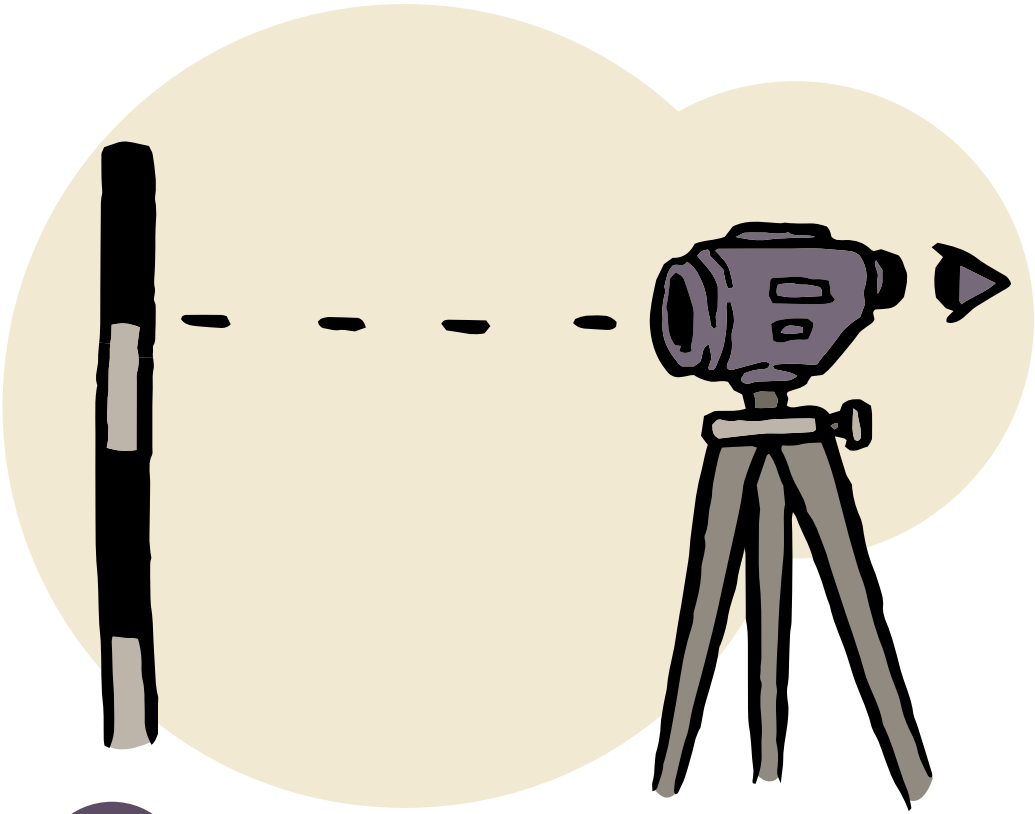


B

This method measuring the height at which water stops flowing from the submerged end of a hose, to determine the vertical distance, or head, between that point and the water's surface.

DUMPY LEVEL METHOD

FEASIBILITY STUDY

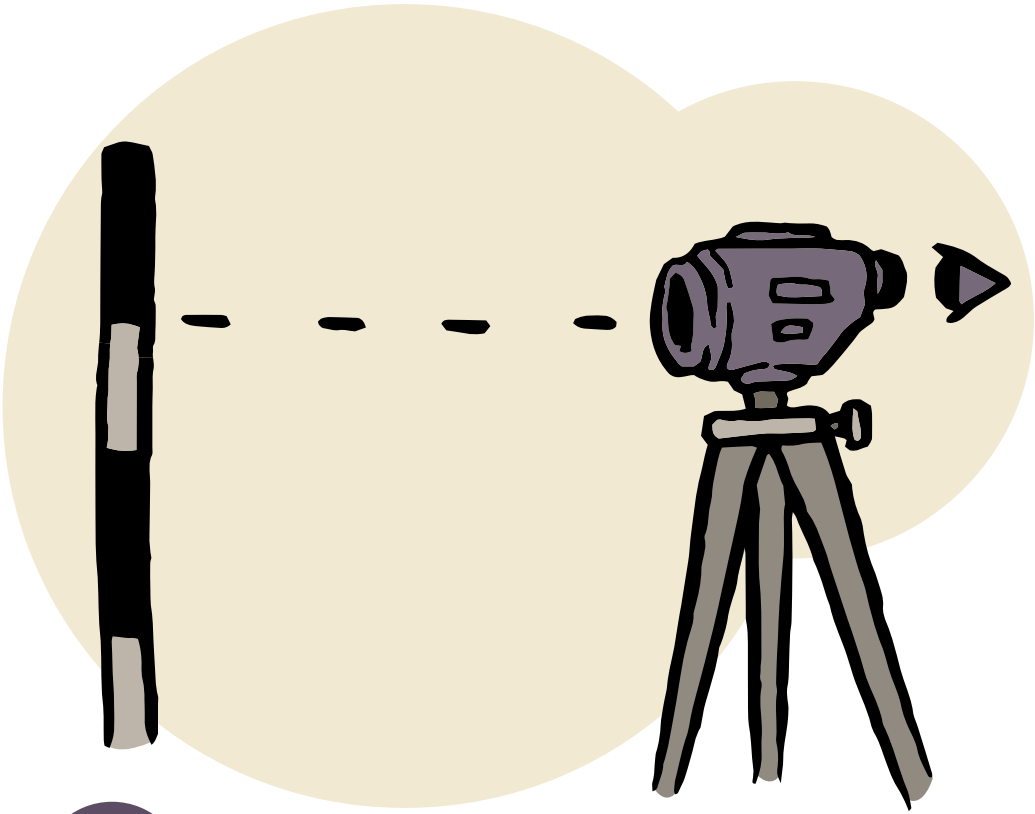


A

The operator looks through the telescope of the dumpy level and takes a reading on the staff.

DUMPY LEVEL METHOD

FEASIBILITY STUDY

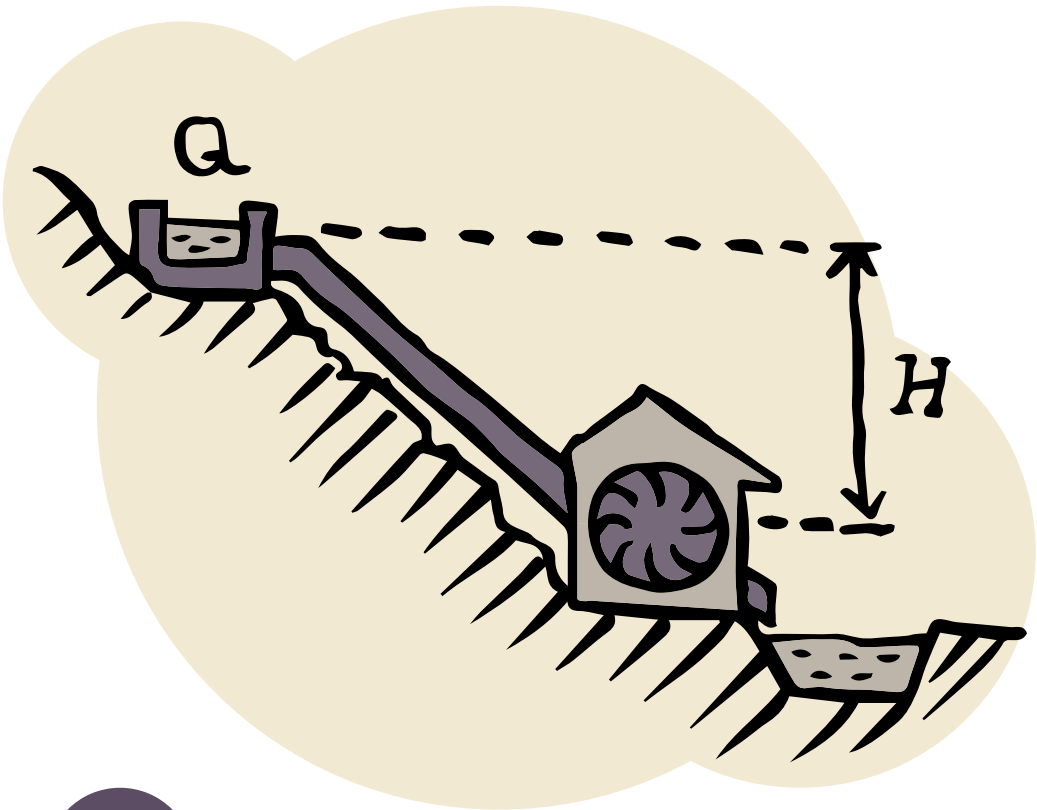


B

This method with high accuracy but is expensive and heavy. Not suitable for steep or wooden sites. Skilled operators are needed.

MHP SYSTEM DESIGN

FEASIBILITY STUDY

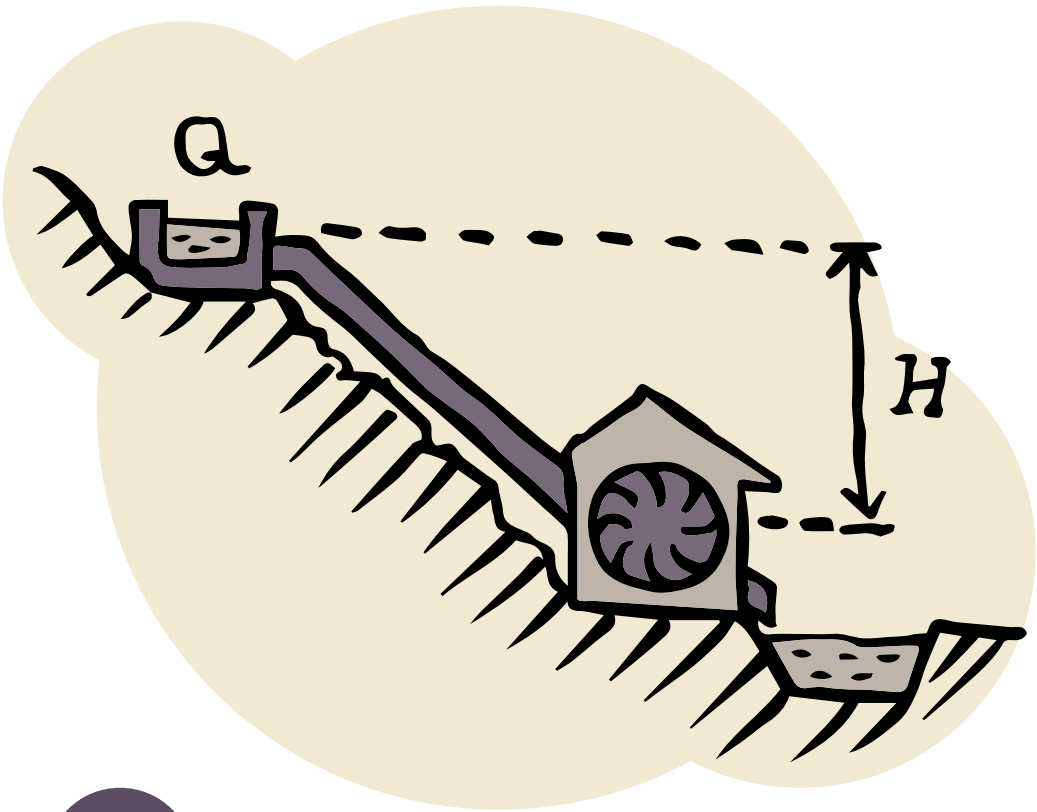


A

Calculate the potential power output based on head and flow, then select the appropriate turbine type and generator size.

MHP SYSTEM DESIGN

FEASIBILITY STUDY



B

Designing and selecting of civil components, mechanical components, electrical components and transmission system for MHP system.

PRODUCTS MARKET SURVEY

FEASIBILITY STUDY

A P.E.U.

A research method used to gather information about a specific market, including customer preferences, needs, and behaviors.

PRODUCTS MARKET SURVEY

FEASIBILITY STUDY

B P.E.U.

Product market survey involves collecting data from potential customers, competitors, and other stakeholders to understand market trends and opportunities.


COMPONENTS
& MATERIALS

BUILDING MATERIALS

COMPONENTS & MATERIALS

A

Building materials are the substances that make up structures, including cement, sand, gravel, bricks, steel, wood, glass, roofing materials, paints, and coatings.

BUILDING MATERIALS

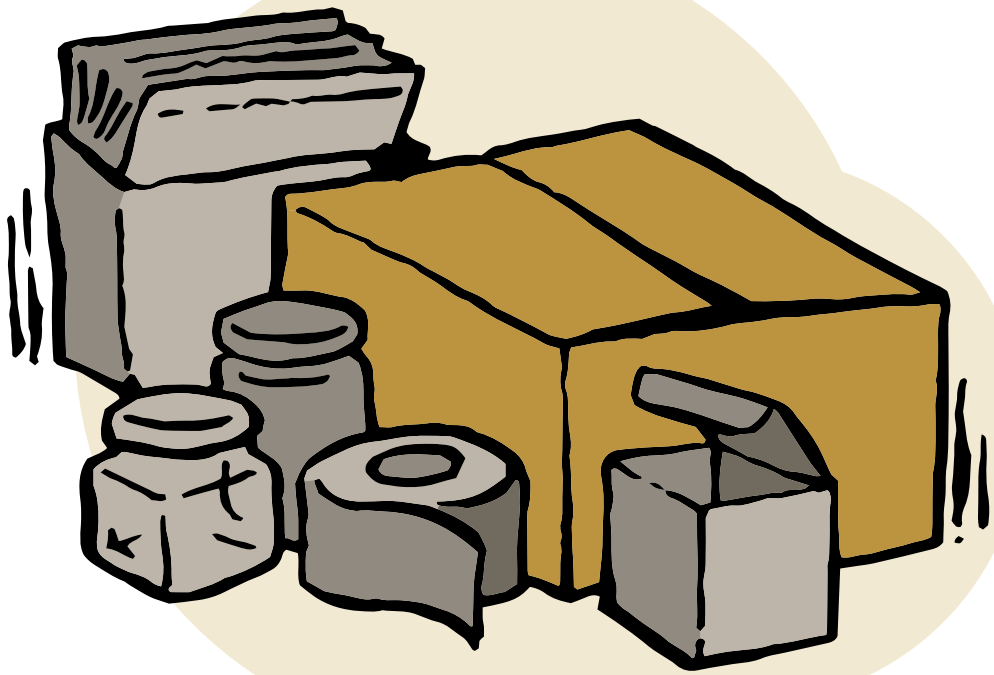
COMPONENTS & MATERIALS

B

Certain building materials are available locally or can be replaced by natural resources like clay, bamboo, and rattan.

PACKAGING MATERIALS

COMPONENTS & MATERIALS

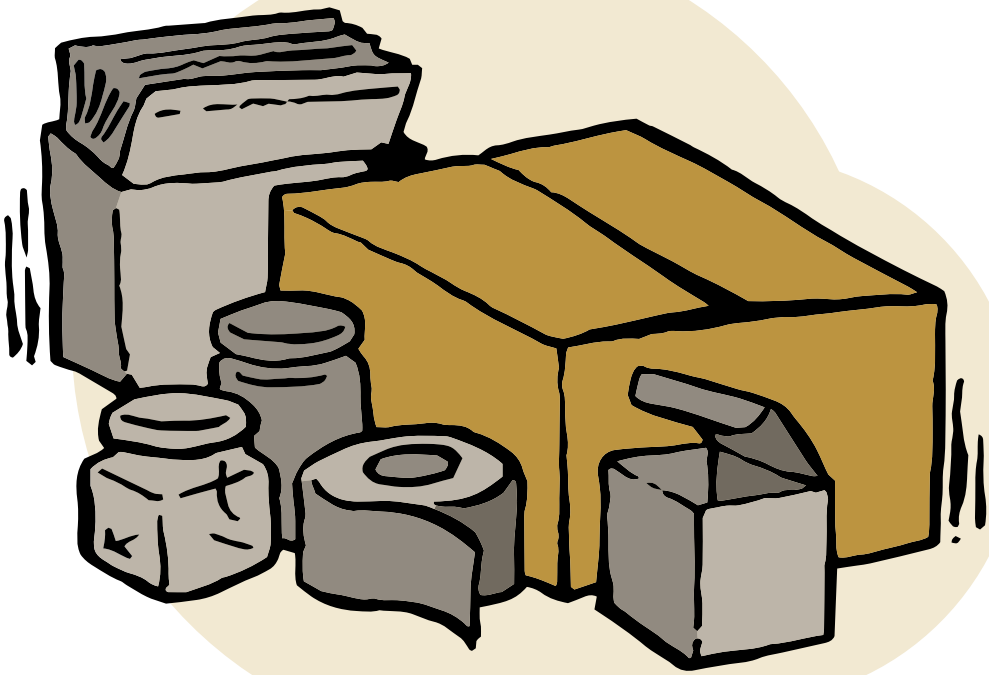


A P.E.U.

Packaging materials are substances, containers, and other components used to enclose, protect, store, and transport products.

PACKAGING MATERIALS

COMPONENTS & MATERIALS

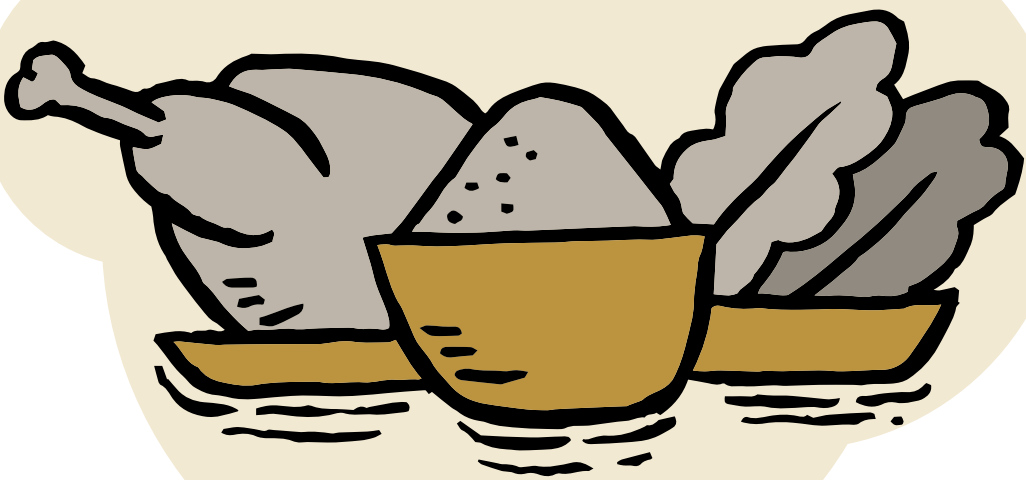


B P.E.U.

Packaging materials can be made from various resources, including plastics, paper, cardboard, glass, and metal.

FOOD

COMPONENTS & MATERIALS

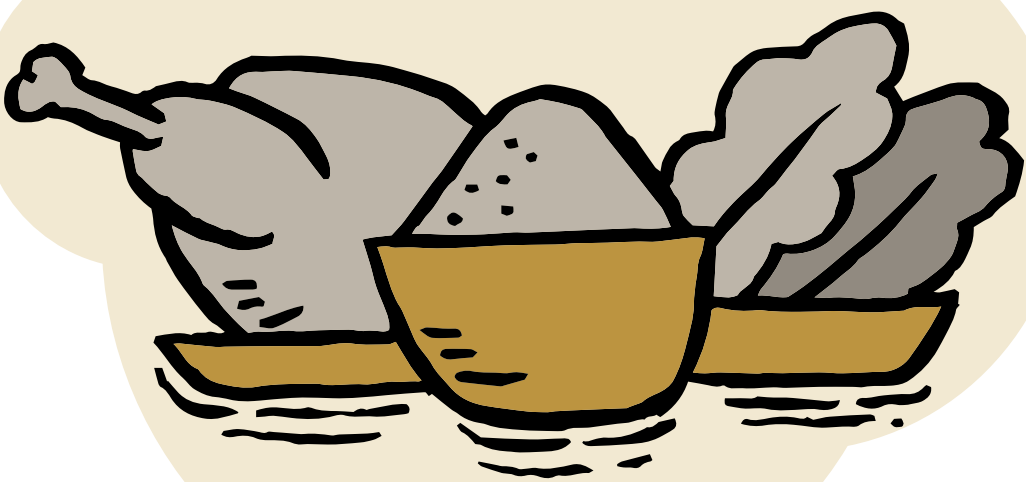


A

Provide meals for the community and workers during the construction phase to ensure everyone is well-nourished.

FOOD

COMPONENTS & MATERIALS

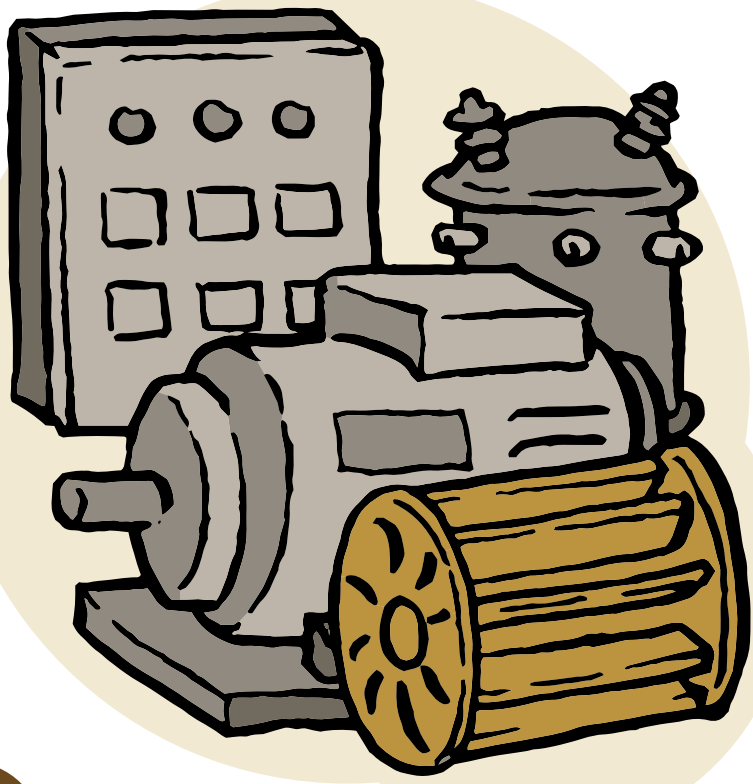


B

Assign specific roles for each stage of the process: food handlers, prep stations, cooking teams, serving staff, and cleanup crews.

MHP COMPONENTS

COMPONENTS & MATERIALS

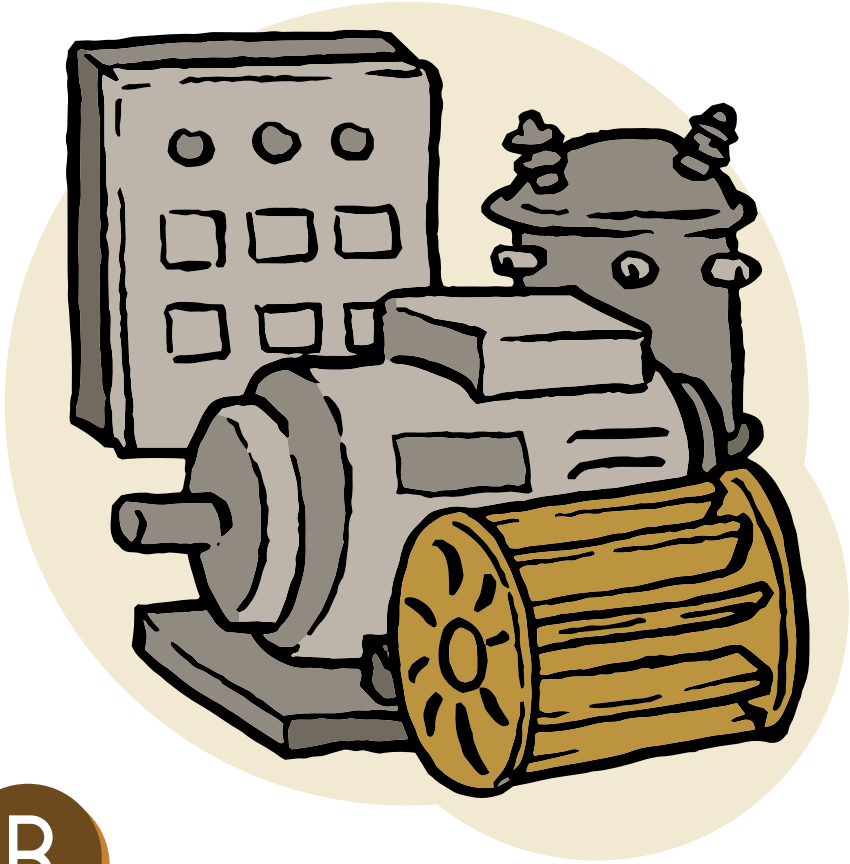


A

The core components of a MHP system include a turbine, generator, Electronic Load Controller (ELC), ballast, transformer, piping and transmission wires.

MHP COMPONENTS

COMPONENTS & MATERIALS



B

Most components for a MHP system can be sourced from specific suppliers, while others, such as the turbines, can be manufactured locally.

AGRI-PROCESSING MACHINES

COMPONENTS & MATERIALS

A

Agri-processing machines are equipment that transforms agricultural raw materials into value-added products through as cleaning, threshing, milling, drying, cutting, pressing, and packaging.

AGRI-PROCESSING MACHINES

COMPONENTS & MATERIALS

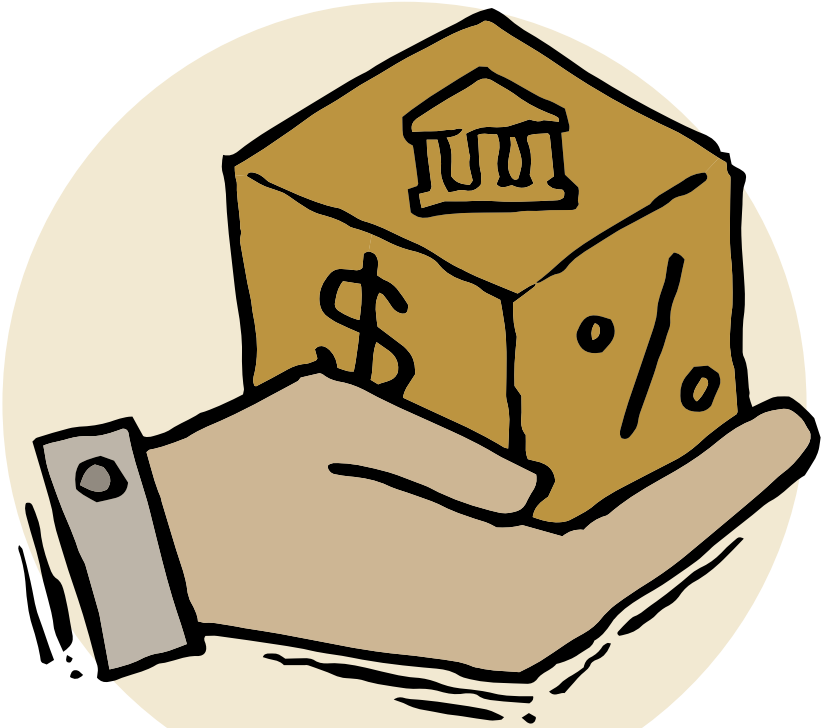
B

Examples include mills, grinders, dehydrator, packaging machine, slicer and freeze dryer.


FUNDINGS

GRANTS & SUBSIDIES

FUNDINGS

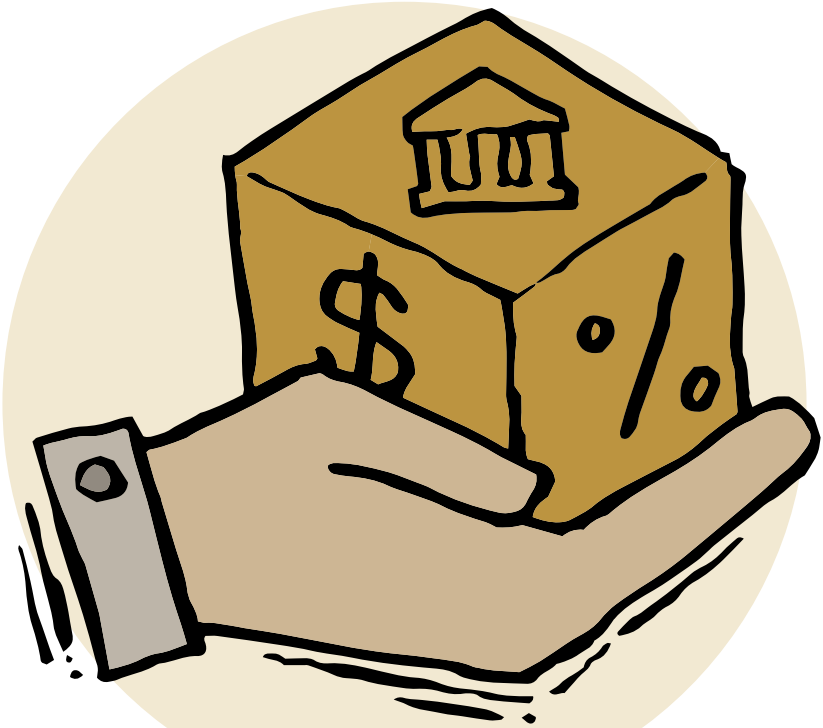


A

Financial awards provided by governments at various levels (federal, state, and local) to support projects that improve the well-being and quality of life for communities.

GRANTS & SUBSIDIES

FUNDINGS



B

This funding does not need to be repaid, provided the recipient meets specific conditions and uses the money for its stated purpose.

INTERNATIONAL FUNDING

FUNDINGS

A

Financial support provided by foreign governments, international organizations, and private foundations to projects that improve the social, economic, and environmental well-being of communities.

INTERNATIONAL FUNDING

FUNDINGS

B

This funding is crucial because it supplements local resources, enables communities to undertake large-scale projects, and addresses global challenges like poverty and climate change.

IMPACT INVESTING

FUNDINGS

A

The practice of investing capital into projects with the explicit goal of generating both a measurable, positive social or environmental impact and a financial return.

IMPACT INVESTING

FUNDINGS

B

Impact investing uses financial capital to solve social problems, aiming to make the funding self-sustaining and scalable.

CORPORATE SOCIAL RESPONSIBILITY

FUNDINGS

A

Corporate Social Responsibility (CSR) is when a company takes voluntary actions to contribute to the well-being and growth of the communities.

CORPORATE SOCIAL RESPONSIBILITY

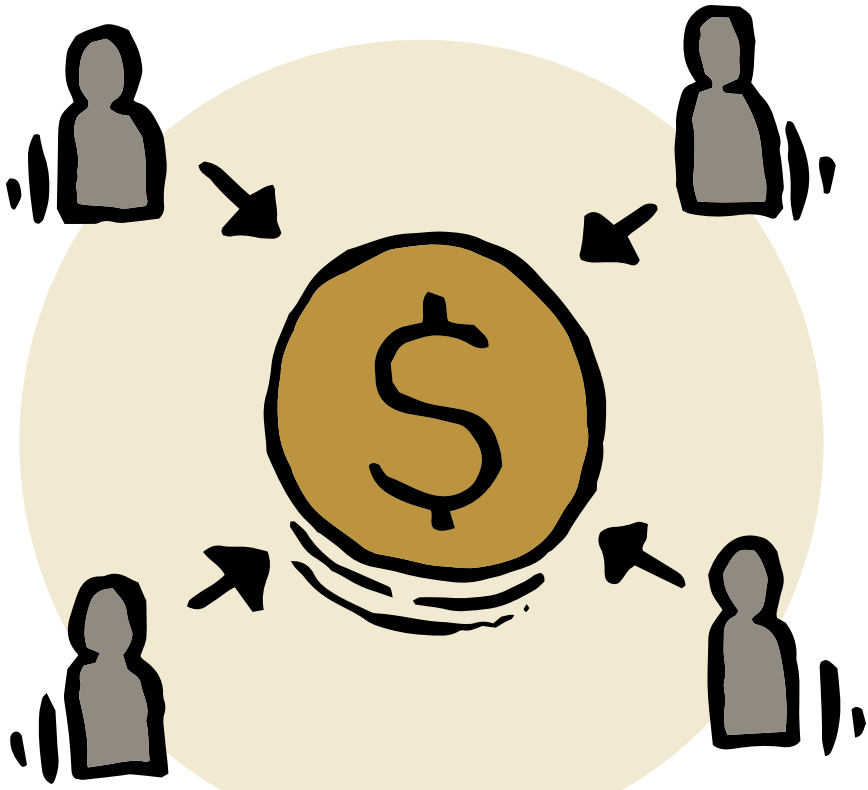
FUNDINGS

B

The goal is to create a positive impact on society while also benefiting the company's brand reputation and long-term profitability.

CROWD-FUNDING

FUNDINGS

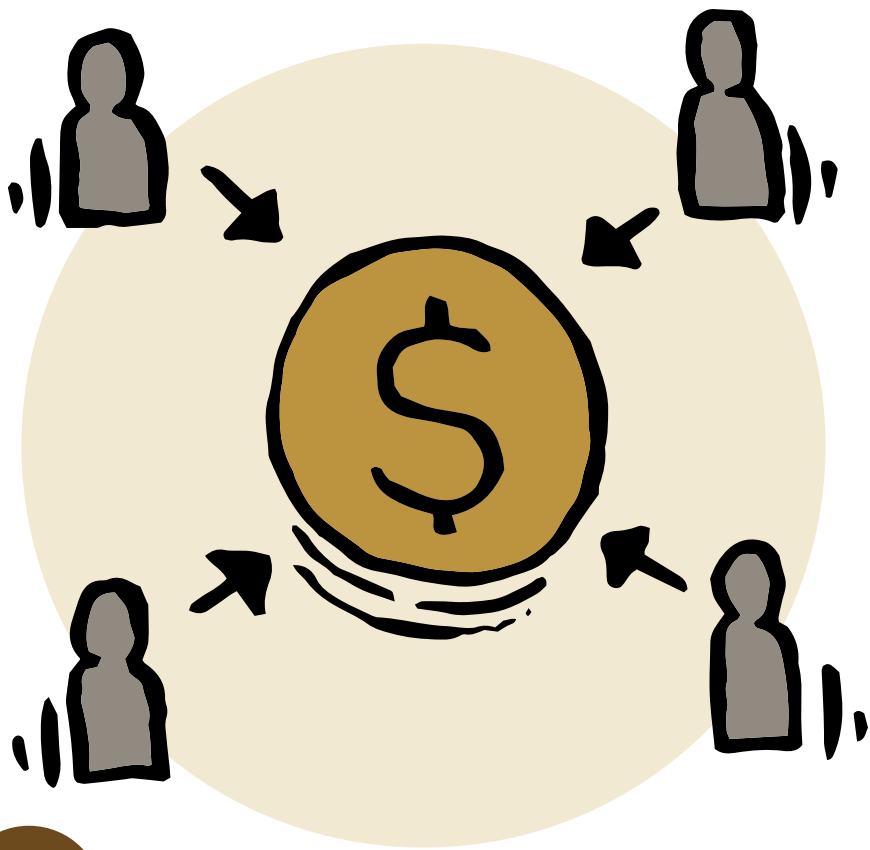


A

The practice of raising funds for a community project or initiative by soliciting small contributions from a large number of people, typically through an online platform.

CROWD-FUNDING

FUNDINGS



B

Crowdfunding leverages the power of social networks and the internet to bypass traditional, often more bureaucratic, funding sources and directly connect projects with a wide pool of potential donors.

MICRO-FINANCE

FUNDINGS

A

Small loans (microcredit), savings accounts, and insurance—to individuals or organisation who lack access to conventional banking.

MICRO-FINANCE

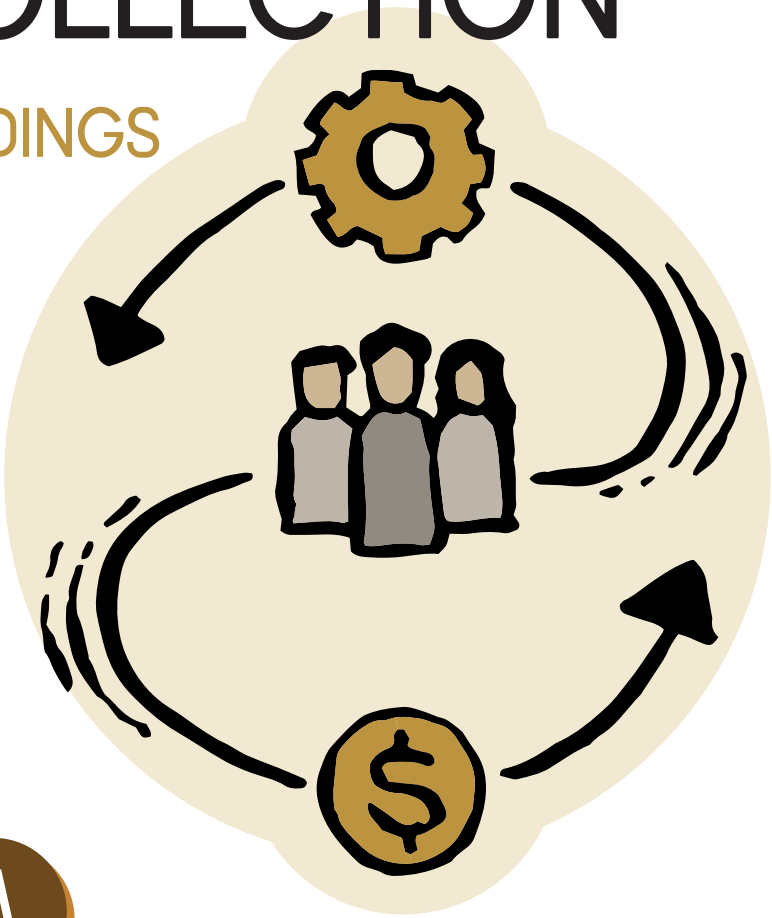
FUNDINGS

B

Microfinance providing marginalized communities with the financial tools needed to become self-sufficient and improve their quality of life.

COMMUNITY OWN COLLECTION

FUNDINGS

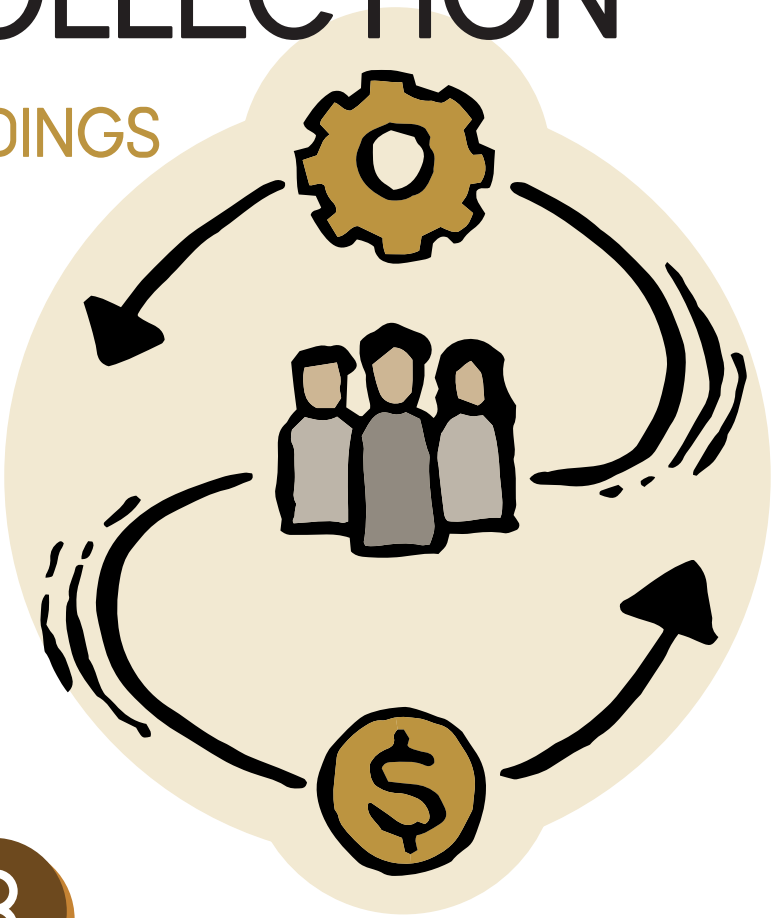


A

Community collectively manages and pools its own resources to fund and sustain local development projects.

COMMUNITY OWN COLLECTION

FUNDINGS



B

This model is a form of self-help and self-reliance that puts decision-making and project ownership directly in the hands of the community members themselves.


STAKEHOLDERS
& MANPOWER

NON-GOVERNMENTAL ORGANIZATIONS

STAKEHOLDERS & MANPOWER

A

Non-governmental organizations (NGOs) are non-profit, voluntary citizen groups that operate independently of government influence.

NON-GOVERNMENTAL ORGANIZATIONS

STAKEHOLDERS & MANPOWER

B

The NGOs purpose in community development is to address social, environmental, and economic issues by filling service gaps, mobilizing resources, and empowering local populations.

SPECIALIZED EXPERTS

STAKEHOLDERS & MANPOWER

A

Specialized experts are professionals with specific knowledge, skills, and experience who are brought into a community development project to address a particular need.

SPECIALIZED EXPERTS

STAKEHOLDERS & MANPOWER

B

Specialized experts provide the technical or strategic expertise required to successfully plan, implement, and sustain complex projects.

GOVERNMENT AGENCIES

STAKEHOLDERS & MANPOWER

A

Public bodies or departments established by federal, state, or local governments to create, fund, and manage programs aimed at improving the well-being of communities.

GOVERNMENT AGENCIES

STAKEHOLDERS & MANPOWER

B

Government agencies play a critical role in community development by acting as a primary source of funding, technical assistance, and regulatory oversight.

LOCAL COMMUNITY

STAKEHOLDERS & MANPOWER

A

Community members can contribute their time, expertise in a trade, or simply their physical effort to build and maintain projects.

LOCAL COMMUNITY

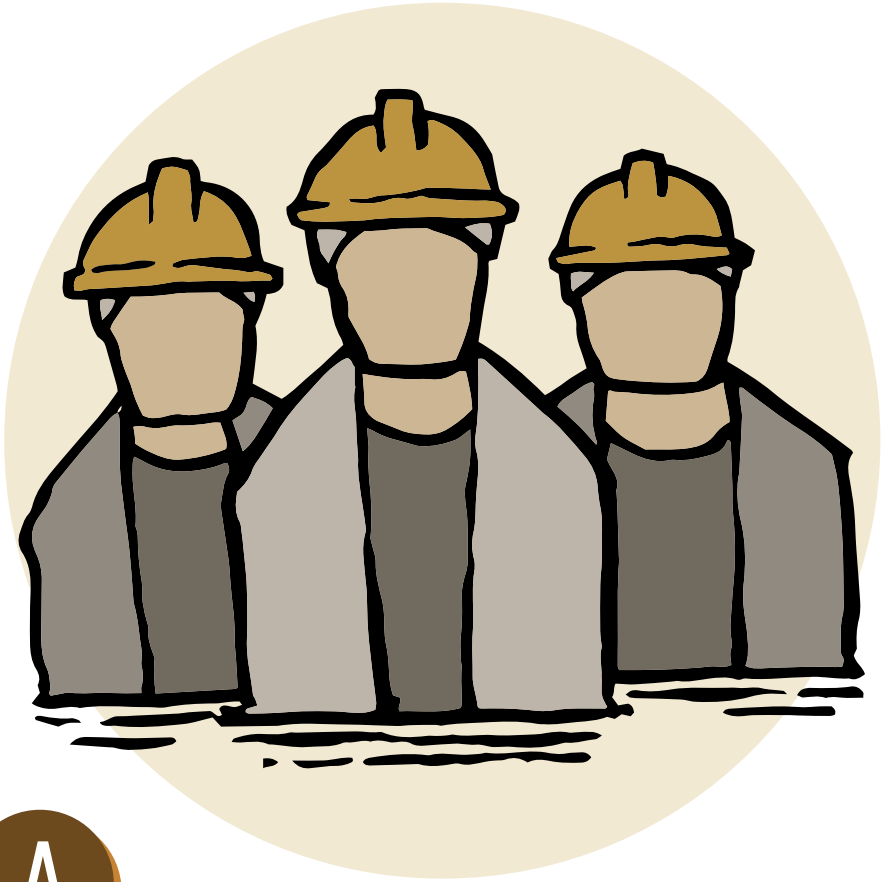
STAKEHOLDERS & MANPOWER

B

When a community is actively involved in the planning and execution of a project, it creates a strong sense of ownershipwhich leads to greater long-term sustainability.

HIRED LABOR

STAKEHOLDERS & MANPOWER

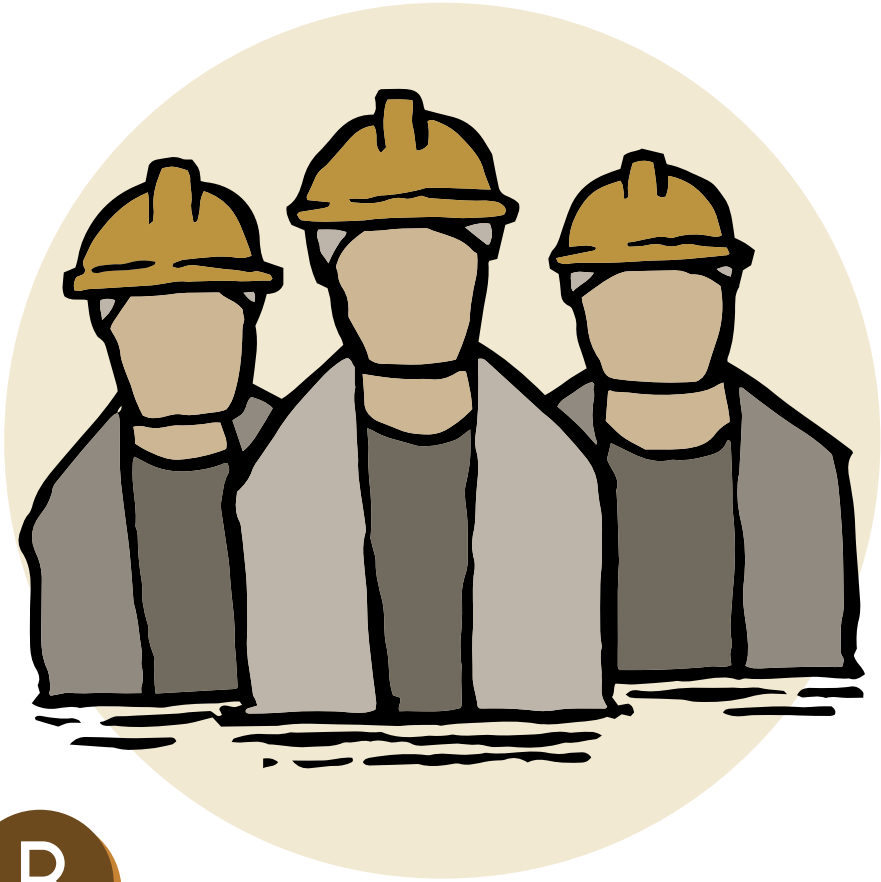


A

Paid workers who are contracted to perform specific tasks to ensure the quality, efficiency, and safety of a community project.

HIRED LABOR

STAKEHOLDERS & MANPOWER



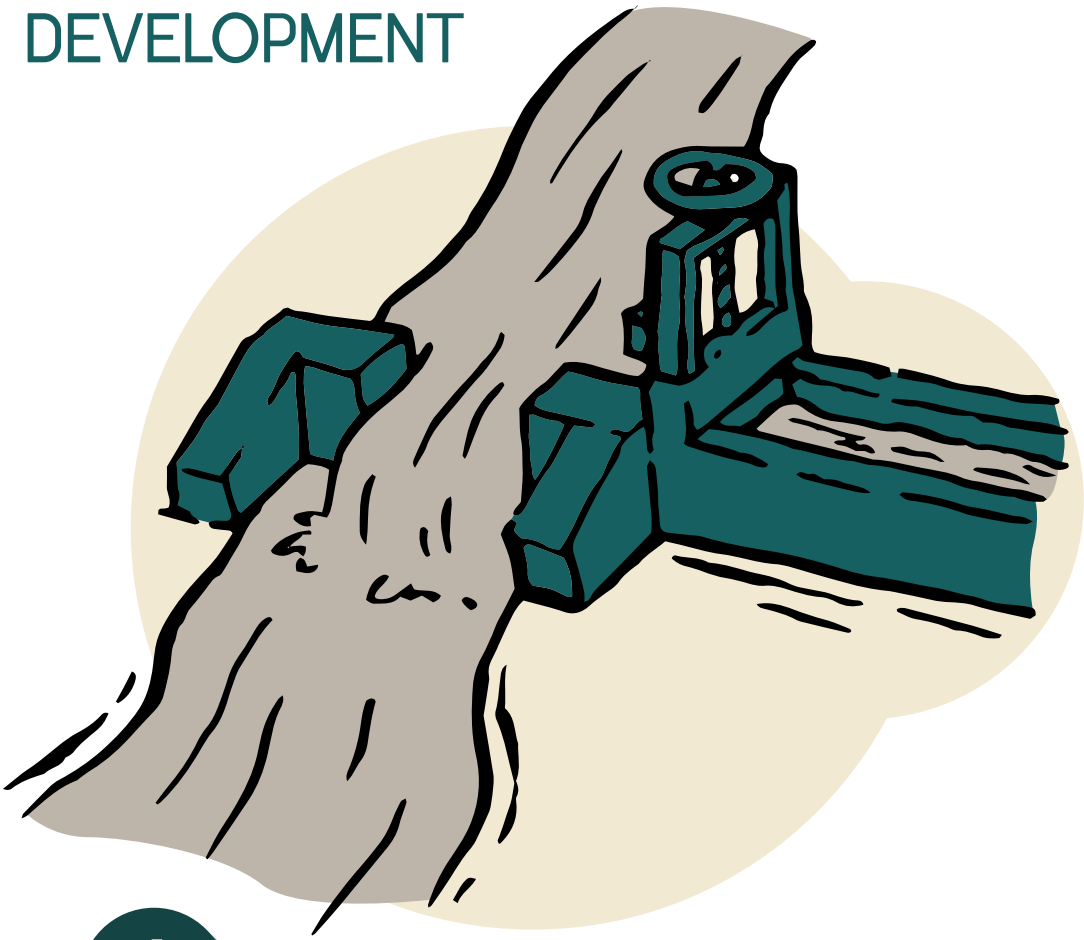
B

Hired labor is often essential for jobs that require specialized skills, technical expertise, or a significant amount of physical work that the community cannot or is unwilling to provide.


DEVELOPMENT

INTAKE & WEIR

DEVELOPMENT

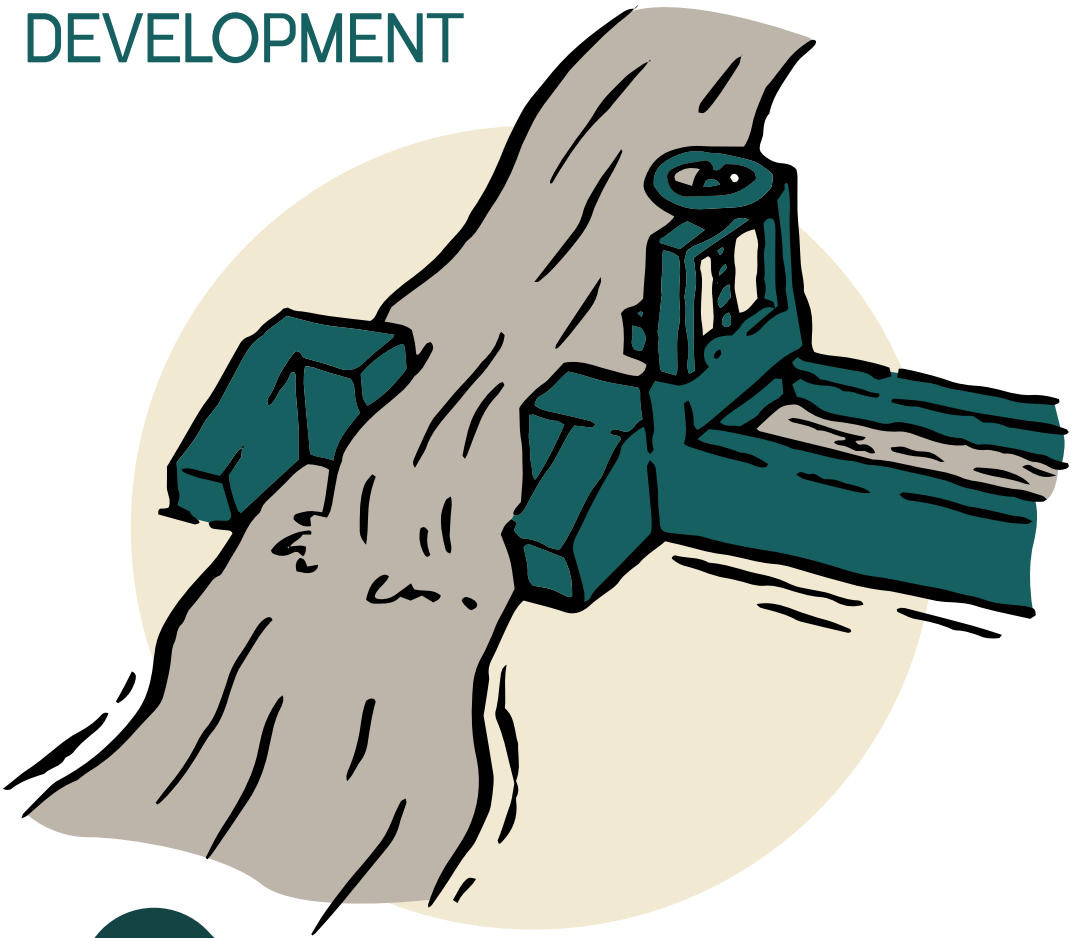


A

The intake is the entry point where water is diverted from a river or stream into the MHP system.

INTAKE & WEIR

DEVELOPMENT

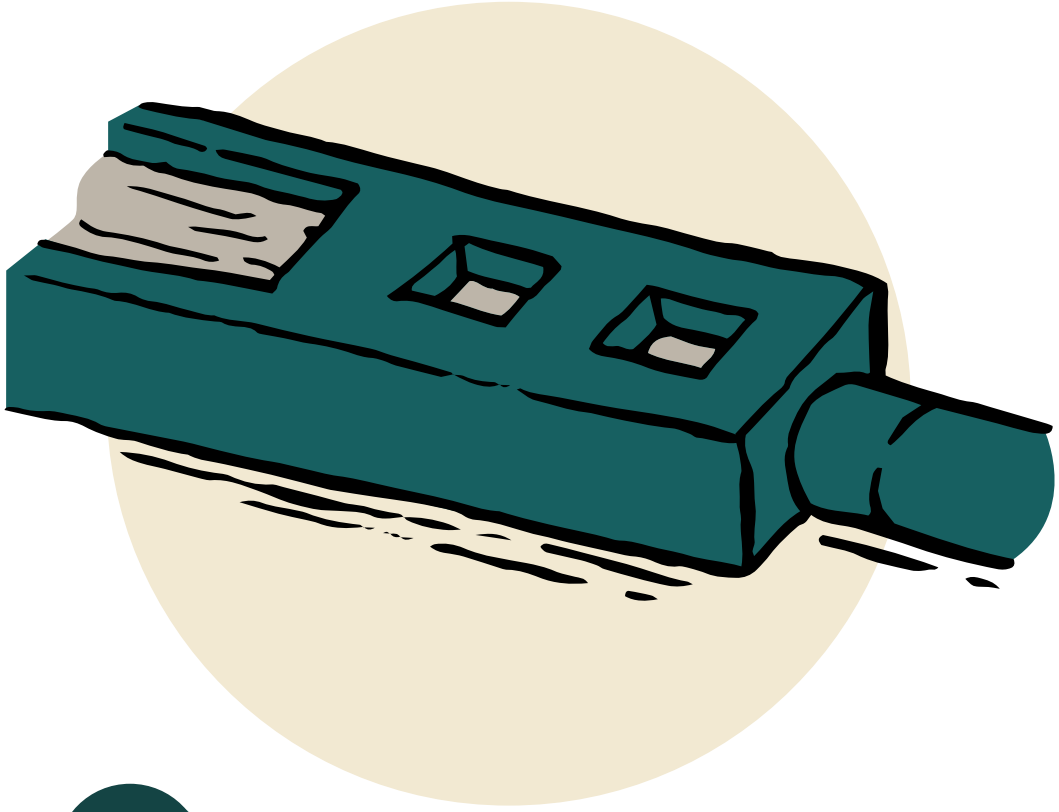


B

A weir is a low dam built across the water source to raise the water level to ensure a consistent flow of water into the intake.

HEADRACE CHANNEL

DEVELOPMENT

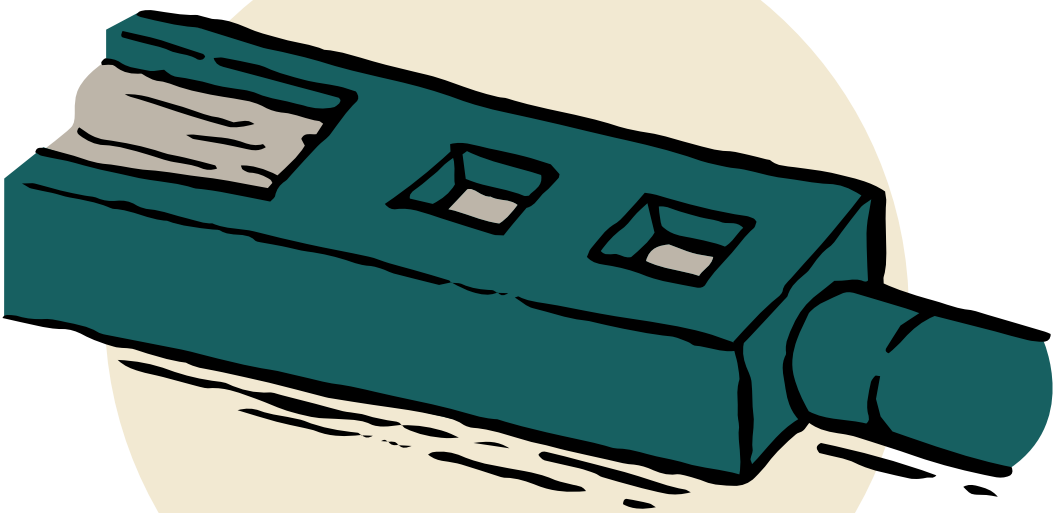


A

An open channel, canal, or pipeline that transports the diverted water from the intake to a forebay.

HEADRACE CHANNEL

DEVELOPMENT

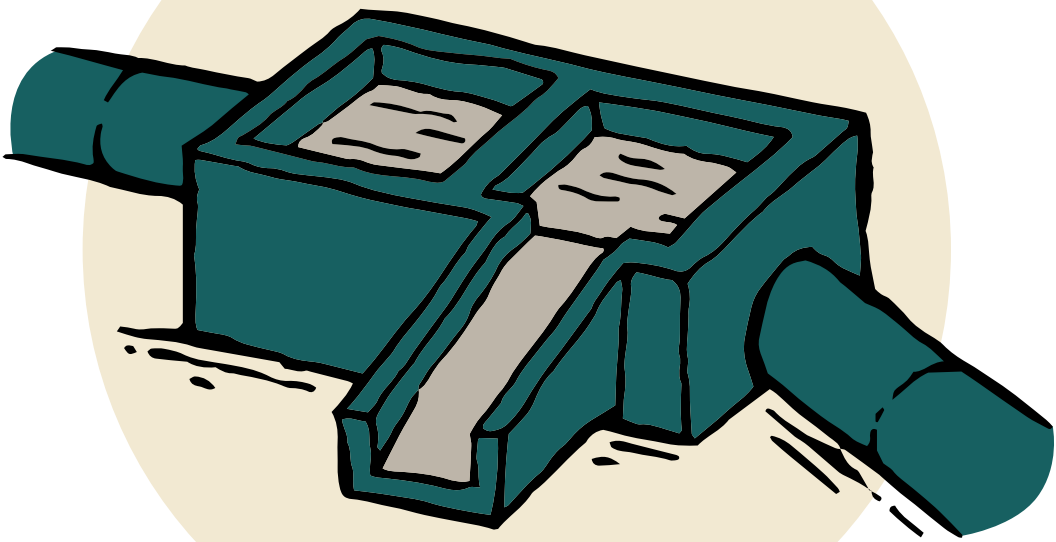


B

Headrace channel is designed with a very gentle slope to maintain a steady flow while minimizing friction and energy loss.

FOREBAY

DEVELOPMENT

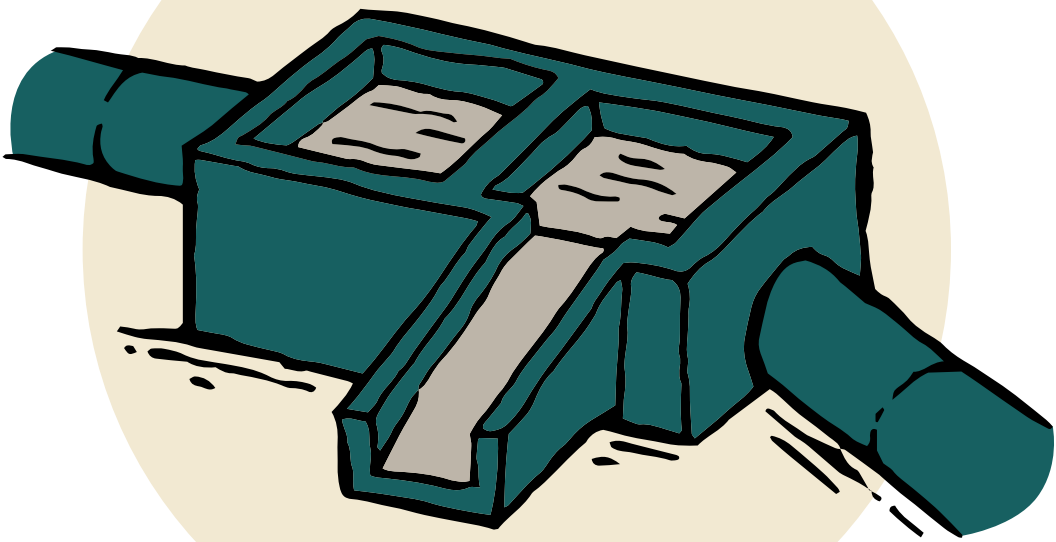


A

Forebay allows sediment settling, prevents it from entering the penstock and damaging the turbine blades.

FOREBAY

DEVELOPMENT

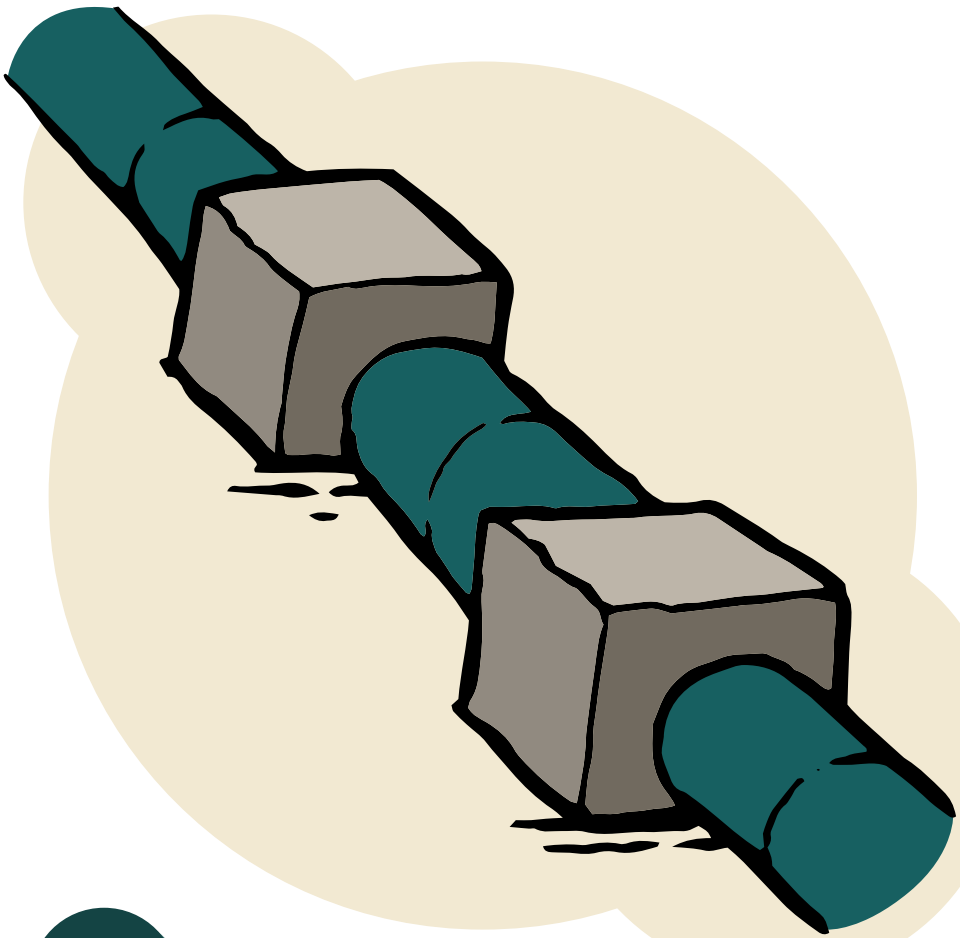


B

Forebay holds a temporary reserve of water, ensuring a continuous and stable flow into the penstock even if there are minor fluctuations in the headrace channel's flow.

PENSTOCK

DEVELOPMENT

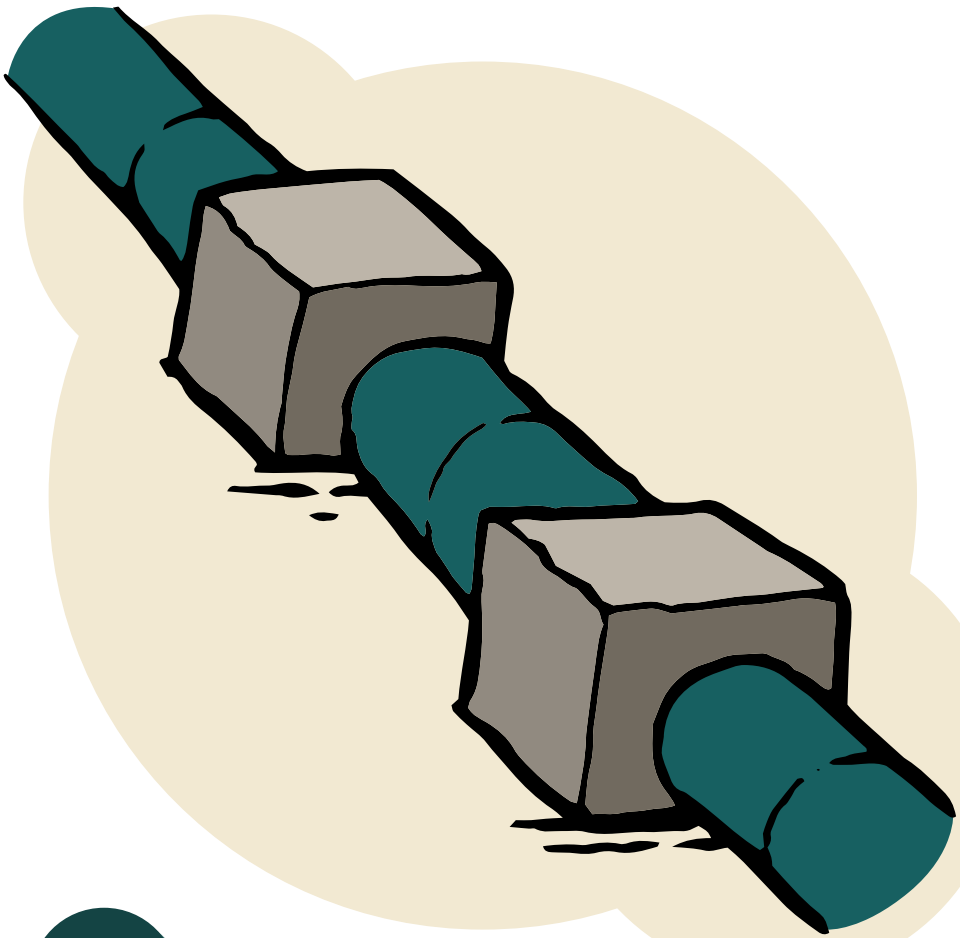


A

This is the pressurized pipe that carries water from the intake point to the turbine.

PENSTOCK

DEVELOPMENT

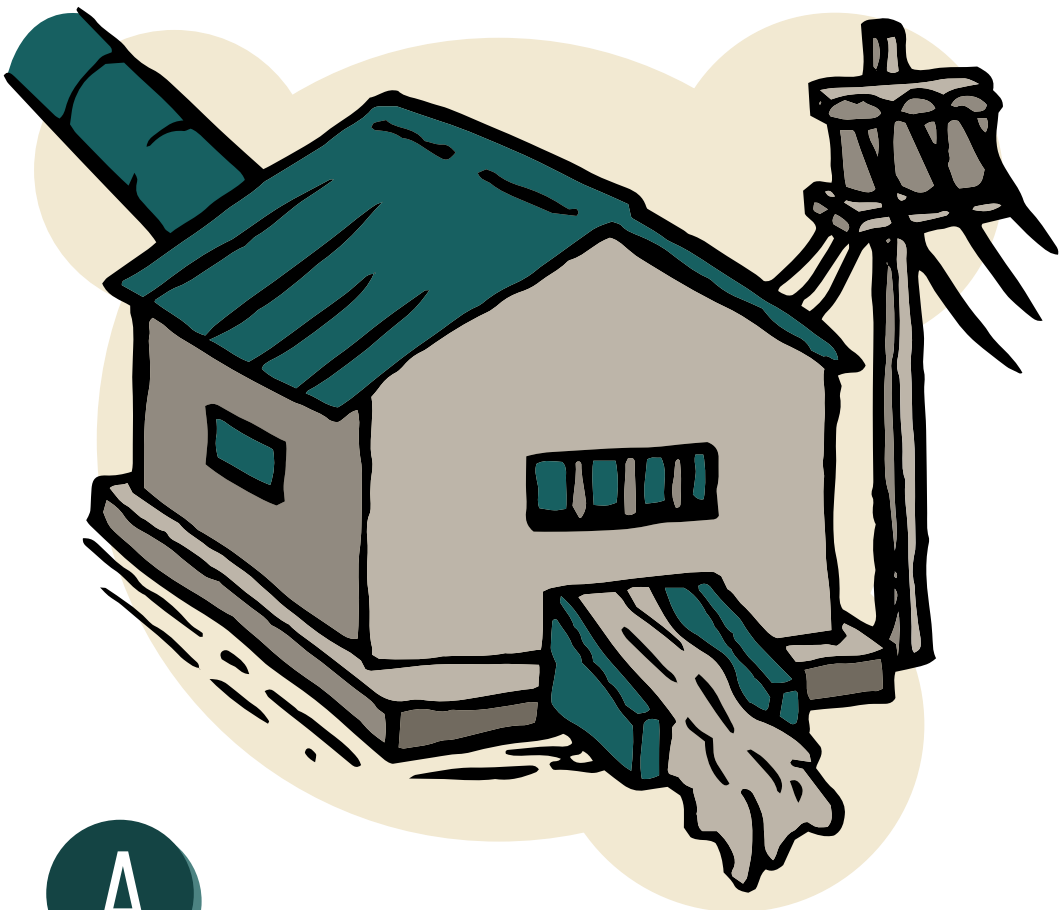


B

The penstock is designed to withstand high pressure and minimize friction losses to ensure maximum energy is delivered to the turbine.

POWER-HOUSE

DEVELOPMENT

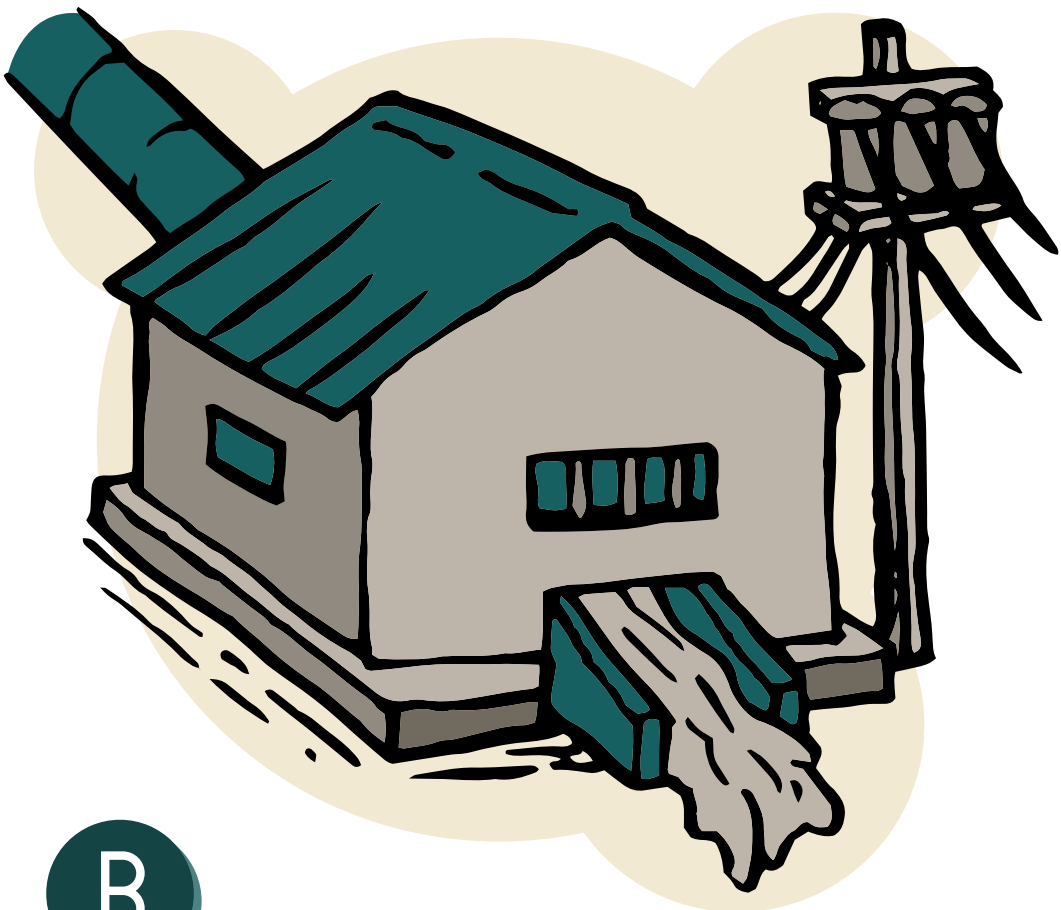


A

The building at the end of a micro-hydropower system that houses the turbine, generator, and Electronic Load Controller (ELC).

POWER-HOUSE

DEVELOPMENT

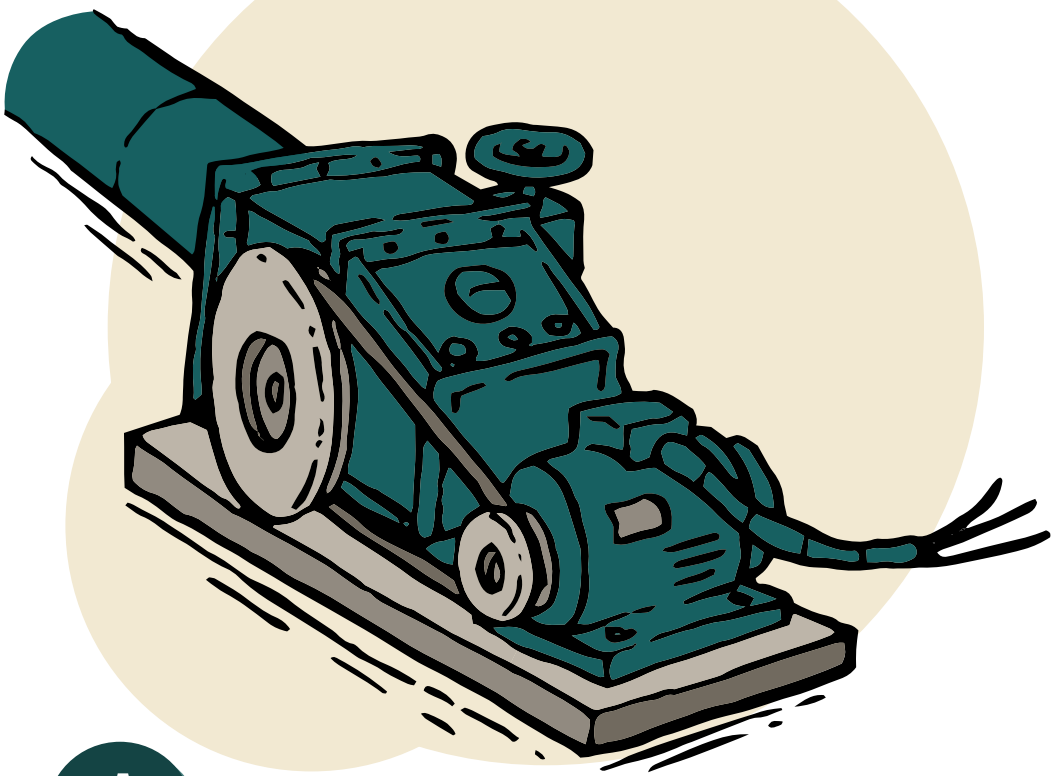


B

The primary purpose of the powerhouse is to provide a secure and stable environment for the core electromechanical equipment.

TURBINE & GENERATOR

DEVELOPMENT

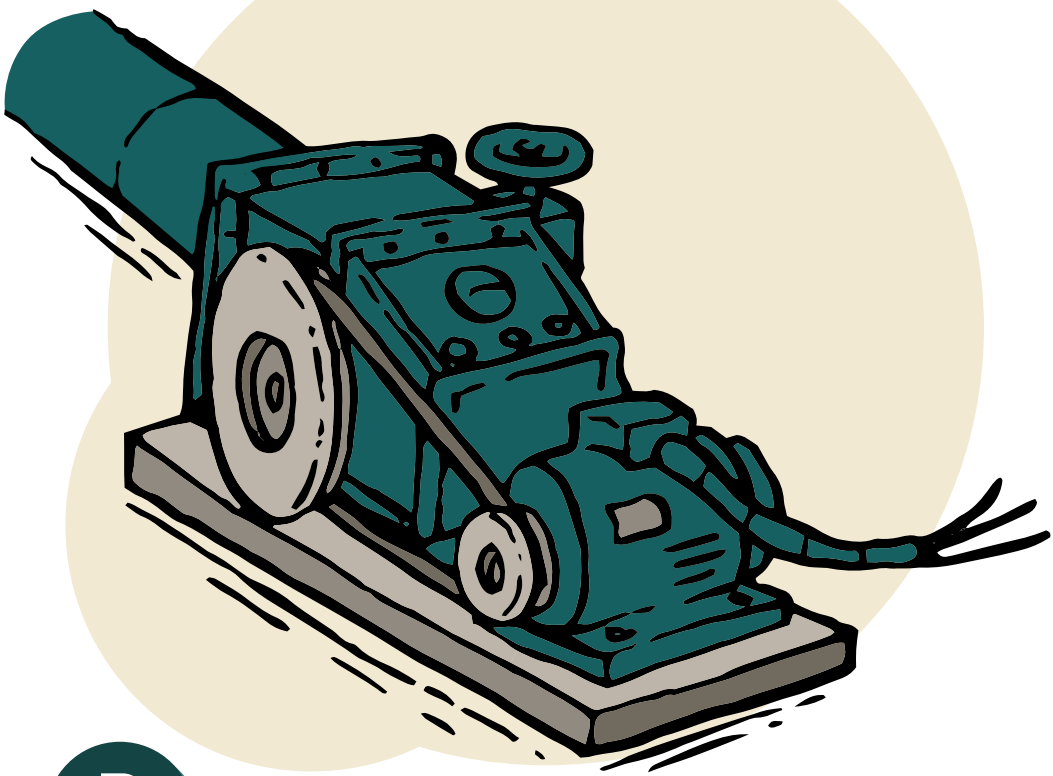


A

The turbine coupled to the generator converts the kinetic and potential energy of flowing water into electrical energy.

TURBINE & GENERATOR

DEVELOPMENT

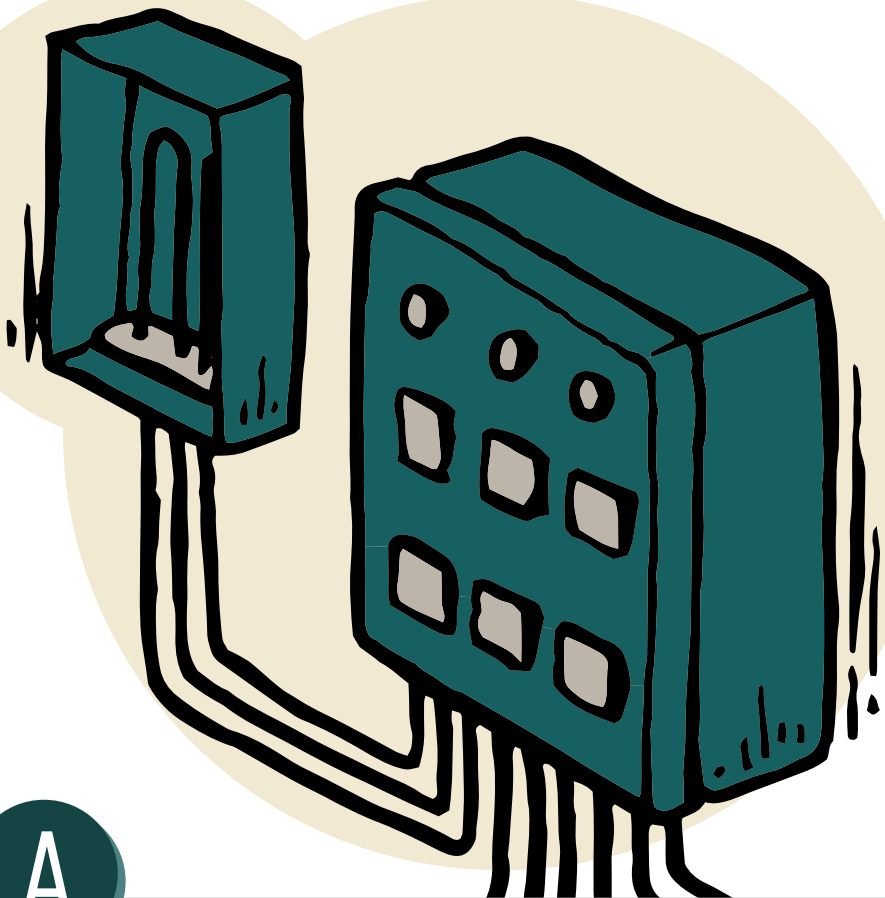


B

The type of turbine used depends on the site's head (vertical drop) and flow rate. Pelton turbines best for high head/low flow, Francis for medium head and flow, and Kaplan/Propeller for low head/high flow.

ELC & BALLAST

DEVELOPMENT

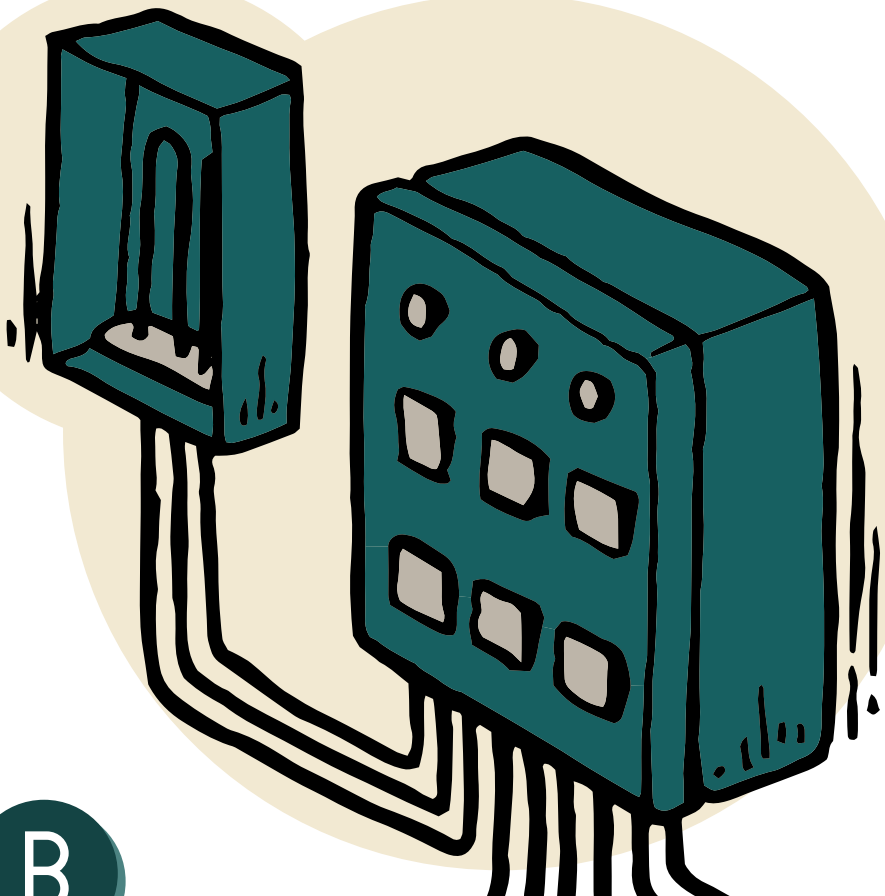


A

An ELC is a crucial component for preventing damage to appliances by regulating voltage and frequency of the power output.

ELC & BALLAST

DEVELOPMENT

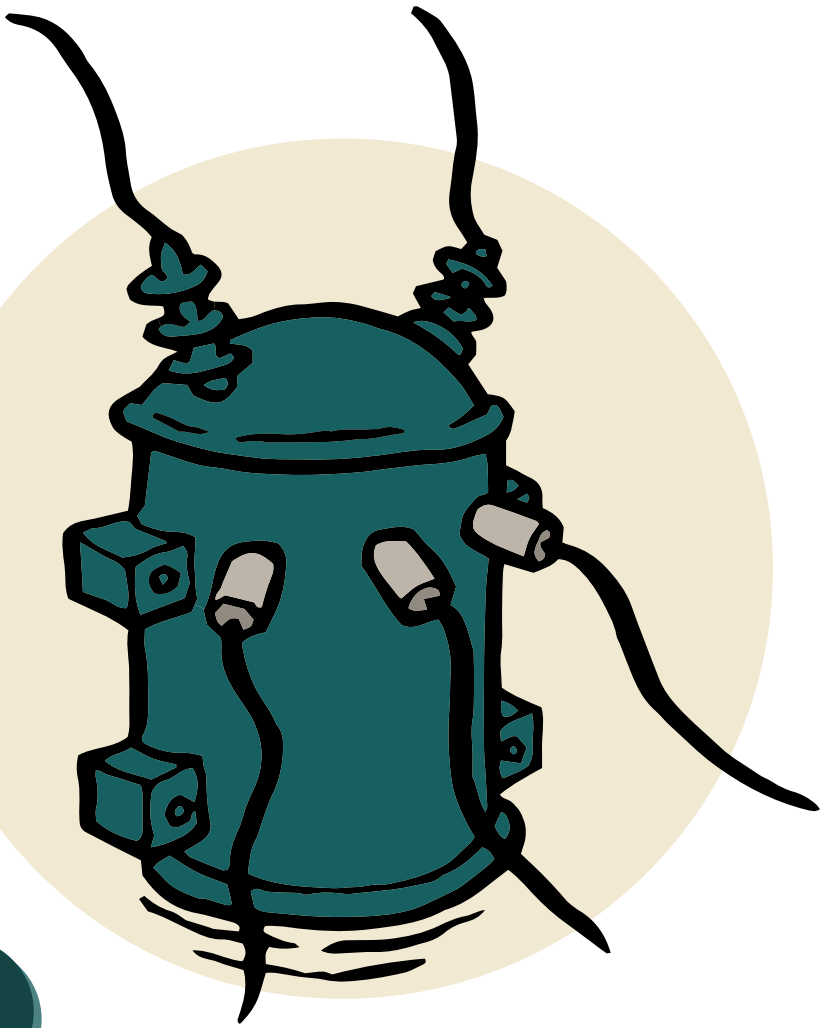


B

The ELC diverts surplus power to the ballast, dissipating it as heat. This keeps the total load on the generator constant.

TRANSFORMER

DEVELOPMENT

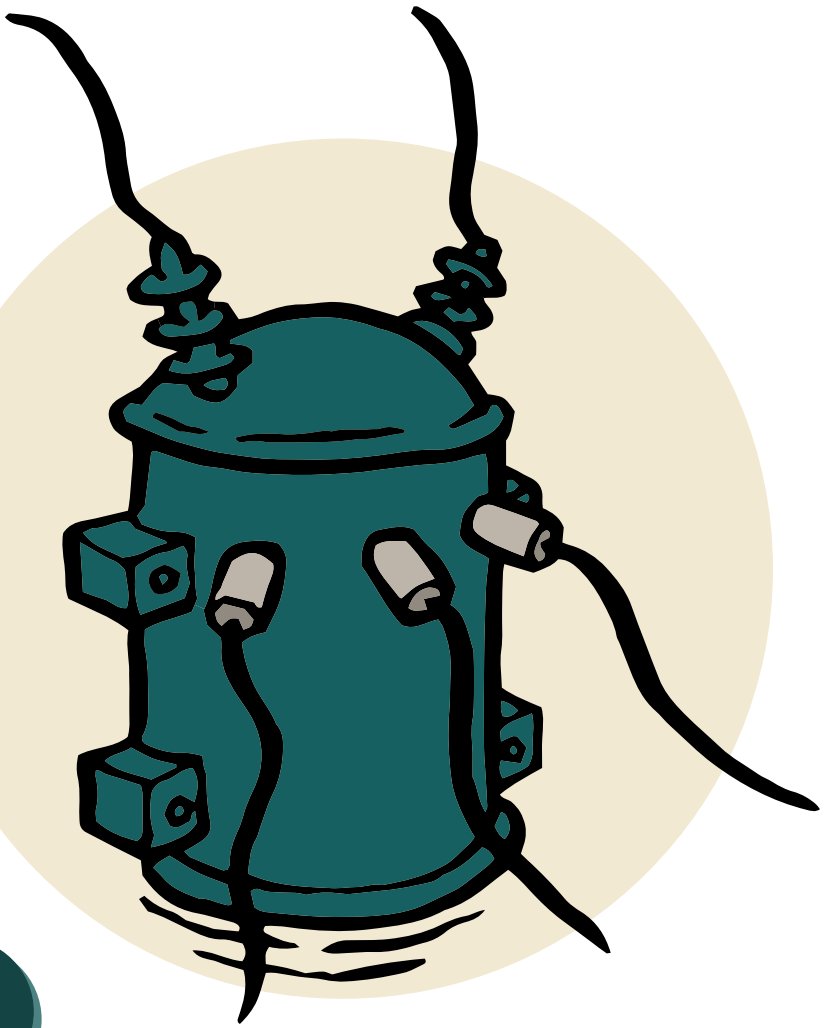


A

A transformer is used if the electricity needs to be transmitted over long distances or at a different voltage.

TRANSFORMER

DEVELOPMENT

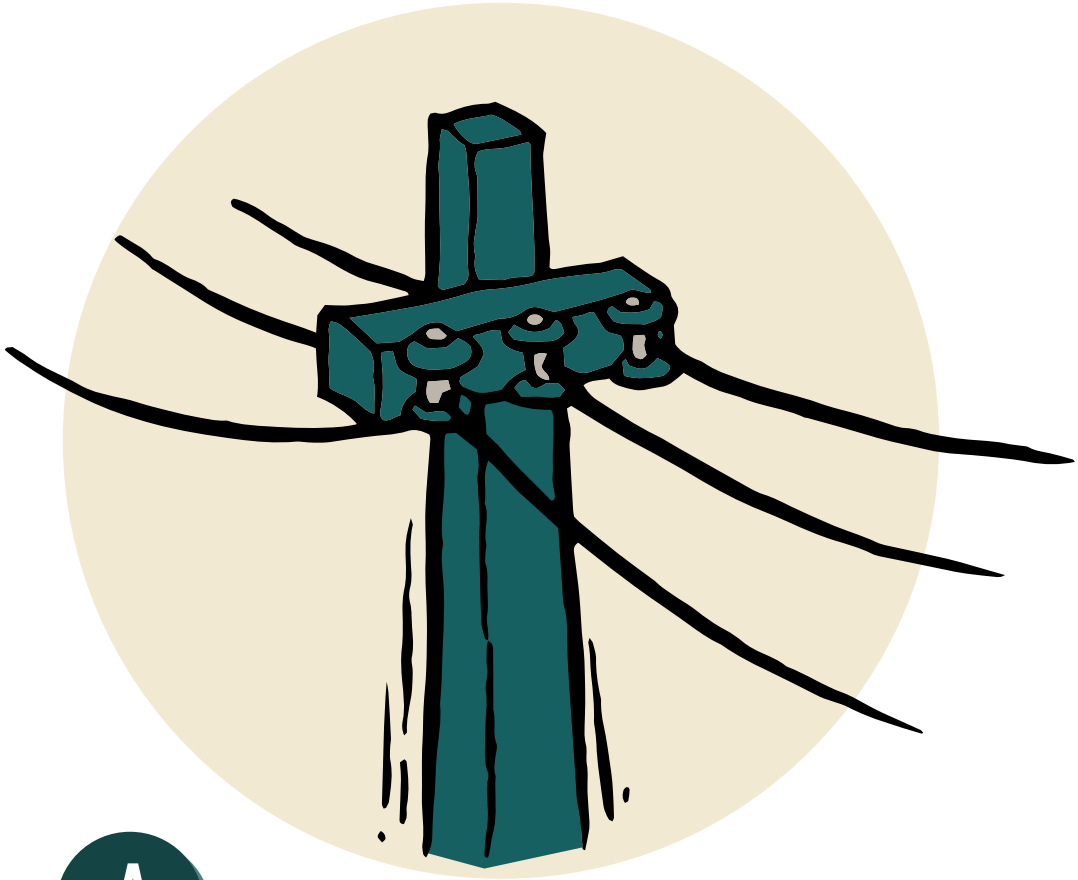


B

Transformer can either step up the voltage for efficient long-distance transmission or step down the voltage for safe use by consumers.

TRANSMISSION LINES

DEVELOPMENT

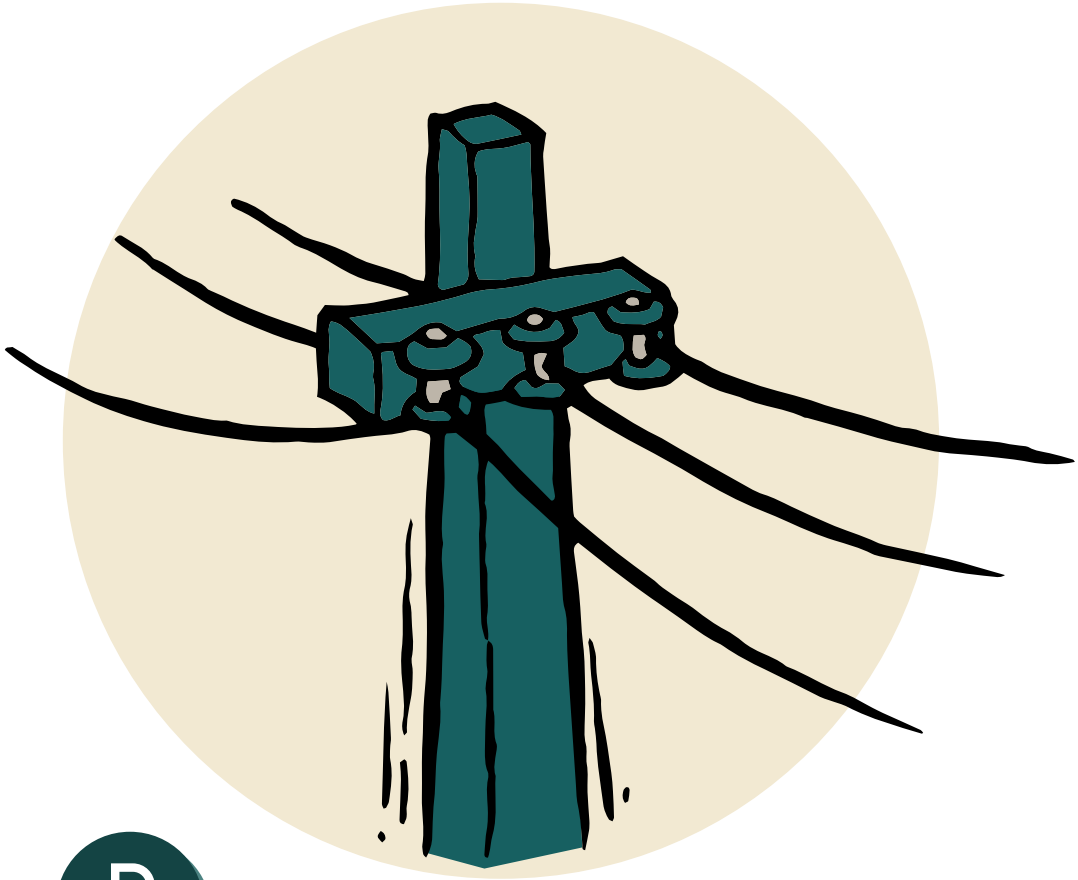


A

These are the conductors that carry the generated electricity from the powerhouse to the end-users.

TRANSMISSION LINES

DEVELOPMENT

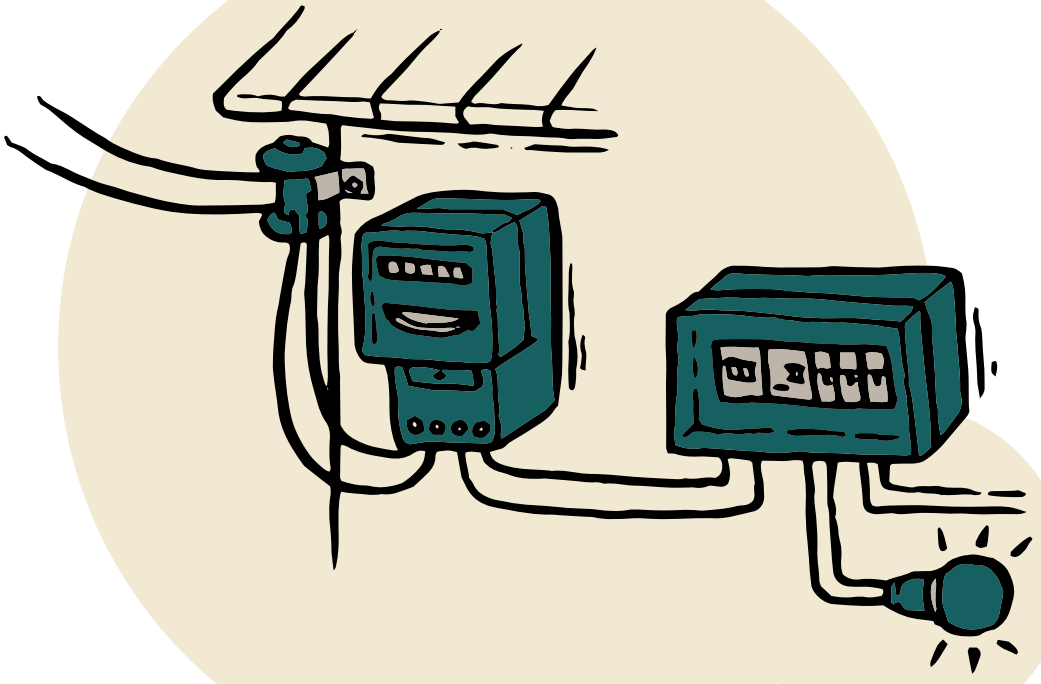


B

The type and size of the wires are selected based on the voltage and distance to minimize power loss.

CONSUMP-TION

DEVELOPMENT

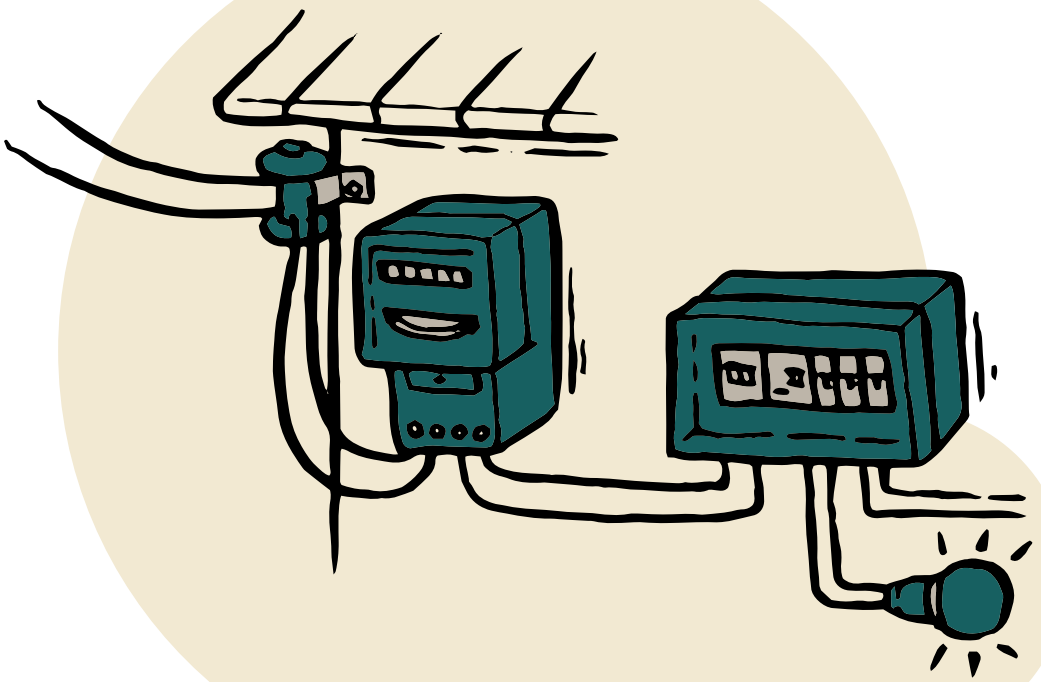


A

Consumption refers to the electricity demand from the community or facility the MHP system will serve.

CONSUMP-TION

DEVELOPMENT



B

The MHP system's power output must be sufficient to meet the peak load, and its energy generation must cover the daily energy consumption.

NURSERY

DEVELOPMENT

A

A nursery is a dedicated, protected area where young plants are propagated and grown before they're transplanted.

NURSERY

DEVELOPMENT

B

A critical component that ensures a continuous, reliable supply of healthy saplings, seedlings, and cuttings.

SEEDS & SEEDLINGS COLLECTION

DEVELOPMENT

A

Seeds and seedlings for a food forest are collected from various sources to ensure a diverse and resilient ecosystem.

SEEDS & SEEDLINGS COLLECTION

DEVELOPMENT

B

This process is essential for establishing the food forest with plants suited to the local climate and soil conditions, while also being cost-effective.

TREE PLANTING

DEVELOPMENT

A

Tree planting is a multi-step process that involves careful planning, proper technique, and community involvement to ensure the long-term health and productivity of the ecosystem.

TREE PLANTING

DEVELOPMENT

B

Tree planting begins with preparing the site, followed by the correct planting technique, and concludes with post-planting care and maintenance.