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# AFRICAN INSTITUTE OF PROJECT MANAGEMENT STUDIES.

# DIOPLOMA IN WATER, HYGIENE AND SANITION

1-Why is community based managed essential in management of water recourse?

Water is critical for society development; water plays a seminal role not only in sustainable development but also in reducing poverty therefore for the society at large management of water resources becomes significant in development agenda.

Communities are frequently excluded from important aspects of environmental management. But they can play a fundamental role in the management of common pool resources such as water. This is particularly true when state capacity is weak or when communities remain on the periphery of support from any government. Integrated Water Resource Management (IWRM) has been widely promoted over the last two decades as a solution for nations' resources. Yet, managing water resources at a global or state level can be over-ambitious and unrealistic, particularly when many developing countries have weak regulating institutions and limited technical and financial capacity. There is a need to redefine the mechanism for water resource management - giving greater respect to the needs, priorities and possibilities of different countries and contexts. There is potential to develop creative and realistic options for water resource management, particularly at local geographical scales, involving water users. This report explores how local water resources can be managed successfully by community-based institutions in support of state-level initiatives, where they exist. It follows 12 months of close collaboration between the Institute of Civil Engineers, Oxfam GB and Water Aid, who are jointly promoting Community-Based Water Resource Management. â€˜...the potential for monitoring and managing water resources at local or community level should be better acknowledged. In particular, traditional water management practices must be recognized and used as a foundation for the development of future water management strategies.' Sir Crispin Tick ell

2-With examples discuss the difference between community management and community participation?

The most basic function of community is to encourage and extend conversation with funs stronger communication can initiate comments from other fans making the thread on open dialogue while

Community participation can be loosely defined as the involvement of people in a community in projects to solve their own problems. People cannot be forced to ‘participate’ in projects which affect their lives but should be given the opportunity where possible. This is held to be a basic human right and a fundamental principle of democracy. Community participation is especially important in emergency sanitation programmers where people maybe unaccustomed to their surroundings and new sanitation facilities. Community participation can take place during any of the following activities: Needs assessment – expressing opinions about desirable improvements, prioritisinggoals and negotiating with agencies! Planning – formulating objectives, setting goals, criticizing plans! Mobilising – raising awareness in a community about needs, establishing or supportingorganisational structures within the community! Training – participation in formal or informal training activities to enhance communication, construction, maintenance and financial management skills! Implementing – engaging in management activities; contributing directly to construction, operation and maintenance with labor and materials; contributing cash towards costs, paying of services or membership fees of community organizations

EMERGENCY SANITATION178Manual12!Monitoring and evaluation – participating in the appraisal of work done, recognisingimprovements that can be made and redefining needs Most emergency sanitation programmers tend to be designed and executed by the relief agency; however, this does not mean that the community is unable or unwilling to participate in some or all of the activities outlined above.12.1.1 Incentives of community participation The following are some of the main reasons why people are usually willing to participate in humanitarian programmers:!Community participation motivates people to work together – people feel a sense of community and recognize the benefits of their involvement.!Social, religious or traditional obligations for mutual help! Genuine community participation – people see a genuine opportunity to better their own lives and for the community as a whole! Remuneration in cash or kind there are often.

3-Give five maintenance problems and difficulties, how can you overcome maintenance difficulties in water supply management?

1-Hand pumps; periodic lubrication of above ground components, replacement of washers and seals replacement of plastic bearings occasional replacement of individual riser mains

2-Aprons and drains (around hand dug wells bore wells and stand pipes) regular cleaning repair of cracked and broken concrete unclogging of drains

3-Hand dug well: repair of concrete lining cap and head wall reopening if necessary replacement of gravel filters

4- Spring boxes: regular cleaning repair of masonry unclogging of drain

5-Rainwater system cleaning and repair of guttering replacement or cleaning of filters.

Hand pump caretakers selected from among the villagers are responsible for the general care and routine maintenance of the hand pump in their own villages

Pump mechanic at the sub district level regularly inspect all installations and make minor repairs as and when necessary.

Team of more highly trained mechanics base at state /provincial level are called in for major repair and replacement work they are equipped with all the necessary tools and machinery.

4- What are the water technologies available in your area explain five?

1-membrane filtration

2-ultraviolet irradiation

3-advance oxidation

4-ion-exchange

5-bilogical filtration.

Membrane filtration (MF) is a pressure-driven separation process that employs a membrane for both mechanical and chemical sieving of particles and macromolecules (Benjamin and Lawler, 2013).

**Ultraviolet** germicidal **irradiation** (UVGI) is a disinfection method that uses short-wavelength **ultraviolet** (**UV**-C) light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.

Advanced oxidation processes (abbreviation: AOPs), in a broad sense, are a set of chemical treatment procedures designed to remove organic (and sometimes inorganic) materials in water and wastewater by oxidation through reactions with hydroxyl radicals ( · OH

Ion-exchange is an exchange of ions between two electrolytes or between an electrolyte solution and complex.in most case the term is used to denote the processes of purification, separation and decontamination of aqueous and other ion-containing solutions with solid polymeric or mineral ion exchange

Biological filtration refers to the process by which beneficial bacteria break down ammonia and nitrite and transform them into compound nitrate which is much less toxic. For beneficial bacteria to thrive oxygen-rich water is needed as well as well as surface that bacteria can attach to, such as rock or sand.

5-How do you ensure cost effectiveness in supply of water?

The programs is often much more difficult to achieve then installation of water system itself

* Institutional arrangement should be made on case by basis as for possible and ultimate decision of the forms of the maintence system should be made by community itself
* Maintenance difficulties and problems with frequent breakdowns are multiplied by selecting inappropriate pump and other materials and by the failure to establish an appropriate spare parts distribution work.