

OL 332 Assignment One Discussion

Online Learning: OL 332 Water Conservation & Management

Center for Sustainable Development. <https://csd-i.org/ol-332-water-conservation-management/>

Good morning class and welcome back.

A shortage of water or unreliable access to water is one of the biggest issues in development. Community water sources dry up during climate change related drought—or seasonally during the dry season.

There is competition among different segments of the community for available water. Discussing community water challenges calls for stepping back from the immediate problem and looking at the relevant underlying causes for the shortage of water in order to begin developing solutions.

This past quarter CSDi has seen a number of water related partner projects worldwide. We are seeing tremendous similarities between the projects: not enough water, too much water—and contaminated water. These challenges lead to reduced harvests, reduced income, reduced food security and nutrition, chronic ill health from waterborne disease, and flooding.

In developing this family of electives, 333—Climate Smart Agriculture, 345—Community-Based DRR, and now 332—Community Level Water Conservation and Management, it's immediately apparent that the overriding common denominator in these three courses is: WATER!

Each of these three courses have remarkable similarities to each other—but are designed to provide solutions to water challenges in different ways.

Climate Smart Agriculture addresses water challenges on the micro scale: a subsistence farmer's fields. We looked at ways of reducing runoff which had the positive benefits of both reducing erosion and keeping a valuable water on the field rather than being lost as runoff. We looked at mulches as a method of reducing evaporation—and therefore conserving our water resources. We also looked at methods of channeling water away from the farmer's field during periods when there is an overabundance of water—and we investigated the opportunity of using dikes as a method of protecting a farmer's field from flooding.

In Community-Based DRR, we looked closely at flooding, and at ways of building both the community teams necessary to forewarn community members of an impending flood, teams trained in evacuating community members before flood can harm them, and teams trained in search and rescue. We also looked at the importance of partnering with agencies which can help with timely information, with training and consciousness raising materials, and with tools and equipment to help during emergencies.

In this course, Community Level Water Conservation and Management, we will be looking at managing and conserving water at a macro level: in the community's watersheds. In other words, in Climate Smart Agriculture we worked with an entire community of farmers on conserving and managing water—but at a level that was beneficial to their individual farm fields. In this course, we will encourage the same community of farmers and other community members to work together to do similar water conservation and management activities—but on a larger scale. On a larger scale from the standpoint of reforesting large-scale deforested hillsides (rather than using agroforestry techniques for their individual farm fields) and perhaps building dams to reduce erosion, flooding, and to harvest water that will benefit the entire community rather than the individual farmer.

Community Level Water Conservation and Management will benefit both the farmer through water harvesting and recharging groundwater systems, and will benefit the community at large by reducing the frequency and seriousness of floods by reforesting hillsides and plugging gullies which direct water rapidly to streams and rivers causing them to overflow suddenly and without warning.

Combining these three courses leads to an integrated approach of community-based adaptation, disaster risk reduction, and rural development. This is the whole point of Diploma 440.

Climate Smart Agriculture is working with community members to adapt to a changing climate. Community-Based DRR is working with community members to reduce disaster related risk. And this course, Community Level Water Conservation and Management, is combining rural development with community based adaptation. Each of these three approaches when integrated support each other creating greater resilience for community members than any of the three could do individually.

These are really only six week long courses—however we give you an additional two weeks at the beginning in case you haven't done a Participatory Capacity and Vulnerability Assessment with your community members.

For those of you who have done the assessment, these two weeks are an opportunity to really zero in on highly specific definitions of challenges and activities for project implementation. Most of your projects have two, three, or four programs—and as you're taking these courses the programs probably relate to the theme of these three courses as illustrated below:

Water Use Management Plan [Solution to underlying causes: Lack of Water Use Management Plan.]

[Activity 1]. Community-based workshop and survey with community members to identify their knowledge of water use and management.

[Activity 2]. Consultation with water use management expert to develop a participatory process and training program

[Activity 3]. Facilitate the Organization of a community based Water Use Management Committee

[Activity 4]. Community workshop on participatory mapping of water resources and uses, and degraded watersheds (consciousness raising)

[Activity 5]. Prioritize water springs, rivulets, ravines and man-made waterways for protection/restoration

[Activity 6]. Investigate and develop water sourcing alternatives for the community

[Activity 7]. Investigate underlying causes of flooding and potential adaptation/mitigation actions

[Activity 8]. Committee participatory workshop on developing a community-based and implementable Water Use Management Plan

Climate Smart Agricultural Practices Programme 2 [solution to underlying cause: Inappropriate agricultural practices - loss of traditional agricultural knowledge]:

[Activity 1]: Surveys and interviews to collect traditional knowledge on agriculture, changes in agricultural cycles, vulnerabilities and coping strategies

[Activity 2]: Identify expert specialist/extension agent in soil, water and agriculture to design and facilitate participatory workshops

[Activity 3]. Community workshop on participatory mapping of water and land resources and uses, agricultural challenges and vulnerabilities—and degraded hotspots

[Activity 4]. Extension agent visits most affected farmers to identify exact CC impacts to crop production and needs of farmers to adapt to the impacts (diseases, droughts and floods)

[Activity 5]: Develop plan that combines resilient and improved agricultural techniques with traditional knowledge for an overall improvement in productivity

[Activity 6]: Establish pilot plots demonstrating better cultivation practices

[Activity 7]: Conduct Farmer workshops on soil restoration and conservation techniques

[Activity 8]: Conduct Farmer workshops on water harvesting, conservation and management techniques

Community-Based Disaster Preparedness and Risk Reduction Program 2 [solution to underlying cause: extreme climate transformation has led to flooding during the rainy season destroying all the crops and livestock]:

[Activity 1] Community-based workshop and survey with community members to identify their knowledge of risk, vulnerability, and traditional coping techniques

[Activity 2] Organization of a community Disaster Preparedness and Risk Reduction Committee

[Activity 3] Training program for committee leaders (*Disaster Preparedness and Risk Reduction Committee develops a risk reduction and disaster preparedness plan*)

[Activity 4] Program on access to timely and reliable information and forecasts on the possible occurrence of natural calamities

[Activity 5] Community workshop on risk reduction, prevention of, preparedness for and responses to disasters

[Activity 6] Community workshops on participatory flood early warning and flood contingency planning

[Activity 7] Community workshop and training on life saving skills

[Activity 8] Community workshop and training on water hygiene

You can see in these programs that the individual activities looked pretty good on your original project outlines—but they are really very general. So even if you don't need to facilitate a PCVA assessment during the first two weeks of the course, this is your opportunity to really carefully analyze and describe the specific challenge and begin researching highly specific, solution oriented activities.

There may be substantial overlap between activities that can be used between the three different components. However in order to keep the courses focused and providing different activities and resources, we will investigate different types of activities for each course. For example, the activities you choose may be similar to these for each of the three different program components.

Climate Smart Agriculture activities for Farm Fields:

- get more organic material into the soil
- use mulch on the surface of the soil
- put up barriers in the field to retard the movement of water off of the field

Community-Based DRR Activities for Community Based Flood Response:

- work with a DRR expert to put together a safety plan for community members
- coordinate with the government to develop an early warning system for flooding
- set up an evacuation team that can conduct practice exercises with community members
- set up a search and rescue team

Water Conservation and Management Activities for Deforested Watershed:

- work with a watershed restoration expert to develop a restoration plan
- set up a tree seedling nursery in advance of the rainy season to get a stock of tree seedlings going to be used in the reforestation plan
- identify destructive gullies that could be plugged with brushwood or loose stone check dams
- plant water loving trees along the banks of the river to reduce erosion and reduce the impact of water

Consequently, although the first two weeks of each of these courses appear to be the same—they are really using the same techniques to look through remarkably different lenses at specific areas of your programs. Beginning in week three of each of the courses we really begin investigating highly specific activities designed to address highly specific challenges. We will look at a broad range of activities in detail. You will then choose the ones that are the most appropriate for your community's specific context.

What we will do in this course.

We're going to do six important things in this course as part of developing a water conservation and management plan for your community.

1. Very clearly describe the highest priority, specific water related challenge that your community faces.
2. Establish a water management subcommittee to provide long-term consistency and management for a water conservation and management plan.
3. Offer a consciousness raising workshop for the subcommittee so that they can learn about the different components of a water conservation and management plan.
4. Develop teams that can participate in the implementation of the different activities defined in the plan.
5. Provide consciousness raising meetings, handouts, and posters for community members about water conservation and management.
6. Identify a highly specific activity for community members to implement and lead them in a training workshop about its implementation

How will we do this?

We will start this course by determining what our community member's water related vulnerabilities are, what hazards they face, what their capacity is to implement and maintain activities, analyze what existing techniques they are successfully using and what resources are locally available. In other words we need to determine what can they do, what local resources and techniques they have available for doing these activities, and what would they be motivated to continue to do after your NGO's subsidies and technical resources come to an end.

The first two assignments may be a repeat of other assignments you've done in other courses. If that's the case—perfect! It will make your first assignments very easy to complete. However, your earlier findings may only represent three quarters of what we need to find out for this assignment—or maybe you didn't do anything

like this assignment in the earlier courses. In the early courses we were looking at challenges in a very general sense—now in this course we are going to get very specific about the descriptions of the challenges.

Getting Started

The first thing that we need to do is a participatory needs assessment which will evaluate the water related hazards, risks, and vulnerabilities that your community members may face—and determine if they have adopted any coping strategies to solve the challenges that they face.

We then need to look at resources that they have available for improving existing practices and exploring new ones. These resources could be in the form of and capability (capacity), human capital, land, building materials, labor, and grasses, hedges, and trees for planting in the watershed and along stream beds and shorelines.

As your ideas develop for refinements in your project design you need to consider two things. One is to seek the advice of an expert in the chosen activities who is familiar with working in your region and with your community's culture. This expert can help you determine what will work and what will not, what activities communities are likely to maintain over a span of time—and which they're unlikely to maintain over span of time. They can also connect you to extension services.

Two, you need to regularly share your developing activity design with the community members in an effort to make sure that you're heading in a direction that they like, that they're comfortable with, and that they will feel ownership in.

You also need to be thinking about the development of a water management committee if you haven't already done that. This might not happen overnight, but it will simplify the training as the committee might have a vested interest in encouraging all members to participate.

You may have already done this in a previous course—if so great—that will reduce your workload. On the other hand, you might have established a community management committee—if that's the case then you can fairly simply be able to develop a water management subcommittee without having to go through a lot of work.

The improvements that we make should be planned such that effort and costs don't outweigh the benefits—and lead to eventual abandonment after project subsidies terminate. Also your project design should encourage reliance on local resources and capacities—in other words we want to reduce reliance on "giveaways" because your organizational giveaways will stop once you're project is done.

When you're clear about the community's context, capacities and resources, you can begin proposing water management practices which will be meaningful for them. In the course we will examine things like consciousness-raising, mitigation activities such as reforestation, gully plugging, and possibly even the construction of a subsurface dam in a sandy streambed. Even though you will have maintained contact with your community, once you have come up with a draft plan of the whole water management component, it will be time to present it to the community for their feedback and comments.

I'm very much looking forward to doing this course with you. I suggest we get going—please move onto Assignment One Homework!

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