Module 3: Overview

Plan and Implement Curriculum Activities and Teaching Practices and Reflect on the learning shared in the WRC Amanzi for Food Training of Trainers (ToT) Course, the changes this has led to, and the ways in which it will be used in the future.

Module 3 is concerned with how we can share information on Rainwater Harvesting and Conservation (RWH&C) for food production in the contexts of formal education (through curriculum development or integration); extension support (through training programmes); and farmer to farmer sharing. The Module will include discussions on some of the key principles underlying effective and collaborative curriculum and training programme development. It will also look at the selection and presentation of relevant information and the use of appropriate learning support materials, including the use of the WRC Amanzi for Food website and the productive demonstration sites.

There will also be discussion of the most appropriate ways of sharing information more widely, focusing on, using the internet, radio, and print media, and how to consolidate your learning network. The Assignments for this module will be concerned with the development of curriculum content (for agricultural training institute (ATI) / college and university lecturers); training programmes (for agricultural extension officers, NGO training personnel and other farmer support organisations such as NGOs, agribusiness & economic development agencies); and frameworks for seeking and sharing information and knowledge (for farmers).

Module 3 Core Text

1. Some key principles in curriculum development

It is very important to recognise that different people learn in different ways. We cannot just assume that everyone learns in the same way that we do, and we need to develop the educational and training programmes in ways that are appropriate for their intended audiences. It is also critical to combine the input of both educators/trainers and learners in identifying the best teaching and learning approaches. Before starting the development of these programmes, therefore, it

is vital to understand how different people learn and which teaching methods to implement.

1.1 Know your Audience

It is very important to have a good understanding of the people with whom you want to share knowledge and information. We often write and produce information in ways that suit us, but may not be suitable for others. For college lecturers who may have students from a wide range of backgrounds, this is a particular challenge. Similarly, agricultural extension officers may support farmers and landowners from different backgrounds, growing different crops at different scales. Agricultural Research scientists / technicians generate and disseminate new knowledge on various topics using scientific methods. There is also considerable potential for such research to learn from farmer innovations.

1.2 Built on People's Knowledge and Experience

No-one is a 'blank slate', everyone has knowledge and experience on which education and training can and should build. Although some knowledge and experience can be assumed from people's backgrounds and the activities in which they are engaged, it is inadvisable to assume too much. It is worth, whenever possible, to check on what people believe they know about and what experience they have of the issue under discussion.

In a college context it is not always possible to have a good understanding of all students' knowledge and experience, and this can vary widely between students. When developing the curriculum it is advisable to allow sufficient flexibility to reach a range of students with different backgrounds, knowledge and experience. It is also important to make the links to other relevant curriculum components, and to tap from non-conventional sources of knowledge such as the innovative farmer.

Extension officers know the farmers they work with quite well, and should have a good idea of their knowledge and experience. From this they should be able to identify which knowledge and experience will be most useful for the farmers in learning about RWH&C practices, and build on this. Farmers should have a good understanding of the knowledge and experience of other farmers, but it is still worthwhile making sure of this.

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1.3 Where Possible Involve Learners (the Audience) in the Curriculum Development

Many curriculum development models encourage the involvement of learners in the development process. Their involvement will certainly help to ensure that the curriculum or training programme meets their needs, and whenever possible it is a good idea to involve them. Good curriculum development practice also engages inter alia with the agriculture industry, practising farmer representatives (all scales), extension services, local authorities and agribusiness.

For the agricultural extension services, there is often interaction with their audience, the farmers. This provides a real possibility to involve them in the development of training programmes. Where farmers are sharing with other farmers they will together agree on what information needs to be shared and how.

Additional Information

A curriculum development process is the sum total of all that we do during training, lecturing, teaching, learning and assessment. Agriculture Curricula in universities and agricultural training institutes / colleges are developed according to set standards. Despite much research behind curriculum development, sometimes these curricula miss out on the sustainable water for food that is relevant for the contexts of small-scale farmers. "All Universities can pay more attention to the comprehensive incorporation of modules on food security, water harvesting and rural wealth creation within Agricultural and Social Science qualifications. (South Africa. DAFF, 2008, p. 114)

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2. Some key stages in curriculum development

Although there are many different approaches to developing curricula or training programmes, most follow a similar pattern:
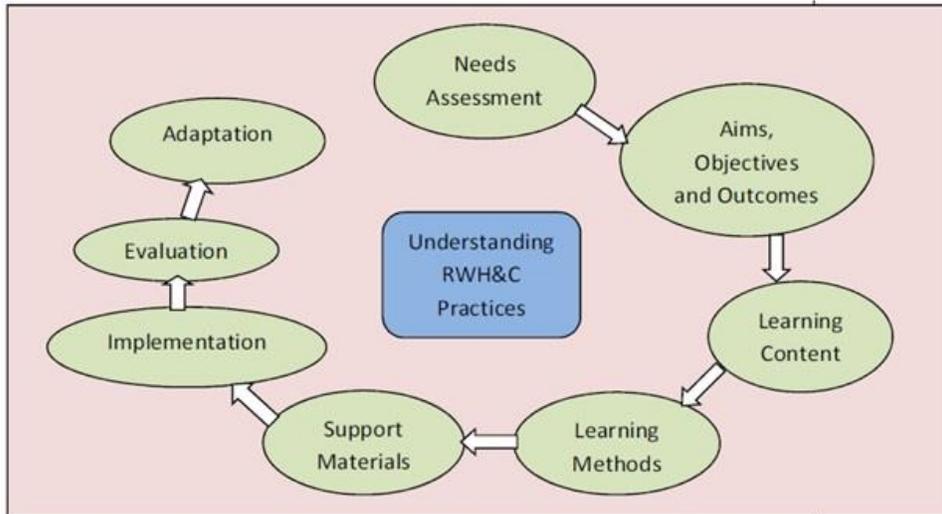
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Figure 1: Generic Curriculum Development Model

Needs Assessment – We have been assessing the need for more understanding of RWH&C practices, and understand the need for greater implementation of these practices.

Aims, Objectives and Outcomes – This is where we decide what we want to achieve through the education, training and sharing processes. The aims and objectives for everyone may be very similar; that the people we are working with, our learners, develop a good understanding of the ideas behind RWH&C, and of some selected practices. The outcomes may be slightly different depending on our teaching context:

Learning Content – Here we decide what particular aspects of RWH&C we wish to share, which of the main ideas behind the practices, and information on which practices would be most useful.

Learning Methods – At this stage we need to decide on the best ways of sharing the information and knowledge. The learning methods may be quite different in the college context, to those used by the extension officers and the farmers. When we have decided on the content we wish to share and which methods we should use, we can organise these in a sequence to provide the framework for the teaching.

Support Materials – Once we know what we wish to share and how we want to share it, we can identify the kinds of learning support materials that will support the learning. Much of this can come from the WRC materials available on the

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website on the resources page.

Implementation – Here we share the information and support materials with our learners, using the methods we have chosen.

Evaluation – After the implementation of the curriculum development plan we need to evaluate our education and training processes to see how effective they have been and what we can do to strengthen them.

Adaptation – This is where we take the outcomes of the evaluation and use them to inform changes to our teaching programmes.

Presentation 3.1 discusses the key principles and stages underlying the development of an effective and collaborative curriculum and training programme.

PRESENTATION 3.1: KEY PRINCIPLES AND STAGES IN CURRICULUM DEVELOPMENT

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3. Sharing our information more widely

One of the main aims of the WRC Amanzi for Food project and this Training of the Trainers online course is to find ways of sharing the information in the WRC materials as widely as possible. Everyone on the course will be sharing their knowledge and the information with their colleagues, students, farmer clients, or fellow farmers. What we will look at now is how we can share this beyond our own direct circle of contacts. Two of the main ways in which we can do this is through the internet, encouraging people to access and use the WRC Amanzi for Food website (www.amanziforfood.co.za), and through community and commercial radio stations and print media.

3.1 The WRC Amanzi for Food website (www.amanziforfood.co.za)

This website is designed to help people find the information they need about RWH&C practices easily. The information is available in many different ways including this online course. We hope that stories and images from the work everyone on the course is doing will add to the information available. It is also possible to link to other websites concerned with RWH&C, such as the Water Research Commission's own site www.wrc.org). There is also the potential for

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the Amanzi for Food website to be linked to other sites concerned with emerging agricultural and related practices, such as the Food for Mzansi site (www.foodformzansi.co.za).

3.2 How can we use radio and print media?

Radio is a very important way of sharing information, especially in rural areas. There are many radio stations around the country, some of them commercial (such as the SABC stations and some independent stations), often operating over wide areas, and some are community stations with a more local coverage. Radio stations broadcast in a variety of languages, with stations for all 11 official languages. It is often these home language stations that reach farmers and others in their local areas. We need to understand the place of radio in people's lives, and how we can best use radio stations to share the WRC information and the work we are doing on RWH&C. In the Eastern Cape, the Imvotho Bubomi Learning Network (IBLN) entered an agreement with a local community radio station, Forte FM based at the University of Fort Hare, for a monthly agricultural programme through which they could share their experiences of RWH&C and other agricultural practices. Such agreements should be possible with other local community radio stations. However, these are often faced with funding challenges and may wish to charge for the use of the station, which would probably make it unviable for local farmers and groups to use.

Local community print media, such as local newspapers are often keen to carry content involving local farming activities, and provide another channel for sharing ideas on RWH&C. The University of Mpumalanga, on behalf of the Sinakekela Sibusiso Semanti Learning Network (SSSLN), made contact with 2 local newspapers; Newshorn, a free local publication covering the Mbombela area, and the Agri-pulse section of the Lowvelder publication, and posted a series of articles related to RWH&C and the SSSLN activities in these. All areas in the country are covered by such publications and these provide great opportunities for sharing ideas and experiences on RWH&C more widely.

4. Starting the development of our curricula and training progammes

4.1 An Opening Activity

This activity provides a starting point for the development of the curricula and training programmes through which we can share the information on RWH&C. It will also provide an opportunity to use and become familiar with the WRC Amanzi for Food website.

Activity 3.1
THIS ACTIVITY BUILDS ON ACTIVITY 2.2 IN MODULE 2

Activities 3.1 and 3.2 help you prepare for Assignment 3.

Building on your own knowledge and experience and what you have learned through this ToT course respond to the following questions, according to which stream you are following:

Stream 1: professionals involved in the formal education and training sector:

Q1- which Option(s) for integration are most appropriate in our context? (Explain why using information such as the institutional support that you have, and the curriculum innovations that you can do without need for a formal review, etc.)
Q2 – What kinds of information/knowledge,
Q3 – What kinds of practice?
Q4 – Which Learning Methods i) are best suited to our audience, and ii) which should we use?
Q5 – Which Learning Support Materials will we need to support the teaching, and how do we acquire these?

The document: Possible Options for Integration into College Curricula (LINK) should be very helpful in undertaking this Activity and Activity 3.2.

Stream 2: professionals involved in the informal training sector, and farmers who share with others

Q1 –What kinds of information/knowledge,
Q2 – What kinds of practice?
Q3 – Which Learning Methods i) are best suited to our audience, and ii) which should we use?
Q4 – Which Learning Support Materials will we need to support the teaching, and how do we acquire these?

4.2 The Intensive Agricultural Curriculum Transformative Actions and Education Practices: planning to educate, train and learn

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differently for enhanced rainwater harvesting and conservation (RWH&C)

4.2.1 More on Curriculum Development

The curriculum is the sum total of all training/teaching/lecturing and learning actions, whether implicit, explicit or hidden. This section seeks to support agricultural education institutions to work on holistic curriculum development actions, collaboratively with key stakeholders such as farmers, extension officers, researchers, and agribusiness promoters. According to Basil Bernstein (2000) Curriculum development and reproduction is not always a straightforward translation process because new demands are always coming to the agricultural education and training system. Curriculum development can be an intense process involving educators, curriculum developers, farmer representatives, and sometimes examiners. Once a curriculum is set and syllabi written, it is often difficult to add new material or information until a curriculum review process is set in motion (often after 5 years).

4.2.2 The Possibility of Curriculum Transformation

In line with the national post-apartheid transformation agenda, the South African evaluation of agricultural education and training highlights the need for agricultural education institutions to integrate rainwater harvesting and conservation among others in the curriculum (DAFF, 2008).

Curriculum transformation may be introduction of a new course to take account of emerging issues, or integration into an existing course or module. Curriculum innovation can take place through the educator's working innovatively with what the curriculum demands, and ensuring that emerging issues such as rainwater harvesting and conservation and climate change and variability are well covered for the sake of social justice and in the true spirit of transforming livelihoods and ways of working.

4.2.3 The Role of the Educator in Curriculum Delivery

Most educators are usually only involved at the point of planning lessons/lectures and delivering them. Each educator makes some very important decisions. These may be about how to start a lecture/lesson, what information to provide the students with or with what activities to practically engage students, e.g. developing and/or using a demonstration site. How these decisions are made is crucial because they will result in a good quality lecture/lesson or a poor one. With respect to rainwater harvesting and conservation the educator will need to

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decide whether this item/theme/ subject/topic exists in their syllabus or not, and if they do with what depth and breadth they should deliver it to students, and within what time frame.

4.2.4 Curriculum Innovation and Agricultural Education Quality

Educational quality and relevance is to a good extent dependent on the innovation of the educator (lecturer/teacher). This professional is expected to balance between current curriculum delivery, examination demands ('students must pass'), emerging / cross-cutting issues such as climate change, and responsiveness to farmer needs.

4.2.5 Two Different Ways of Approaching Curriculum Transformation for RWH&C

In education and development work, intervention can be summarised by two different approaches to achieving change in order to meet new or emerging challenges at work. One is "change interventions, which aim at reaching a predetermined objective, and (the other) formative interventions, which focus on creating a new concept and principle of carrying out an activity" (Virkkunen & Newnham, 2014 , p. 1).

Presentation 3.2 discusses Transformative Actions and Education Practices in detail. It provides guidance on what might be needed for effective changes in curricula and training programmes to promote the idea of RWH&C and the associated practices

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PRESENTATION 3.2: TRANSFORMATIVE ACTIONS AND EDUCATION PRACTICES: PLANNING TO EDUCATE, TRAIN AND LEARN DIFFERENTLY FOR ENHANCED RWH&C

The following activity provides an opportunity for you to look in detail at the changes you might want to introduce into your curriculum, training programme or interactions with fellow farmers. This will help greatly in preparing for the final assignment.

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Activity 3.2
THIS ACTIVITY BUILDS ON ACTIVITY 2.2 IN MODULE 2 AND ACTIVITY 3.1 IN THIS MODULE

Activities 3.1 and 3.2 help you prepare for Assignment 3.

Guided by your won experiences and Presentation 3.2 consider the following questions:

Stream 1: professionals involved in the formal education and training sector:

A. Current curriculum practices
1. What elements in your current curriculum have relevance for RWH&C practices?
2. Are these sufficient to meet farmers' needs?
3. Do they equip your students to work with and advise farmers adequately on alternative water supply, delivery and use where conventional irrigation is not possible?
B. Proposed new curriculum practices
1. What new RWH&C curriculum elements do you propose to introduce (from Activity 3.1)?
2. How will you integrate these elements into your current curriculum?
3. Will these be sufficient to meet the needs?
4. If not – what other elements may need to be introduced – maybe in other subject areas?
C. Planning the new curriculum
1. What is your vision of the future curriculum? (You can write a small narrative; or draw a diagram of your vision – with a caption; or represent it in some other way).
2. Outline a plan of how you are going to make the curriculum changes
3. Identify who will need to be consulted for this
4. How will you use the WRC materials to support the changes?

Stream 2: professionals involved in the informal training sector, and farmers who share with others

A. Current farming and extension practices
1. What are the current water challenges or successes in your farming area?
2. How do farming communities cope with water stress in the

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fields/farm/garden? Be specific regarding what people do, where (area and place), and why?

3. How do young people participate?

4. Do people still practice Gelesha or other traditional RWH&C practices? Which ones?

5. What changes, if any, have there been in people using these practices

B. Aspirations for future water use, conservation, delivery and use (RWH&C) practices and extension service

1. What is your vision of the future water supply, delivery and use in your farming area? (You can write a small narrative; or draw a representation of your vision – with caption; or represent it in some other communicable medium of your choice).

2. How will you involve and work with the youth?

3. How are the ideas you developed in Activity 1 going to contribute to this vision?

4. What other things need to happen to achieve this vision?

5. How can you use the WRC materials to support this?

5. Reflection on the learning shared in this ToT course, the changes this has led to, and the ways in which it will be used in the future

This section of the final module will provide an opportunity to review and reflect on what we have learned, how this learning has expanded and changed the way we think and how we do things, and how we can use our learning in the future.

Activity 3.3 provides a framework for your reflections on the course and your learning from the course. It asks you to think about what changes you have made in the way to think about RWH&C and how you share this and other information with others. The Activity should also assist you in planning for taking your own learning further, and sharing it with others.

Activity 3.3
REFLECTION ON THE LEARNING SHARED IN THIS TOT COURSE, THE CHANGES THIS HAS LED TO, AND THE WAYS IN WHICH IT WILL BE USED IN THE FUTURE.

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Drawing on your experience of working through the course use the following questions to reflect on what you have learned, and how this might have changed the way you approach your work. Also think about how you can move forward from here and use your new learning in the future:

Q1 – What are the main things I have learned about the importance of RWH&C?

Q2 – What are the main RWH&C practices I have learned about and which I think might be most useful in the context I work in?

Q3 – Has my understanding of RWH&C and the associated practices changed the kinds of information I share with others? In what ways?

Q4 – What are the main things I have learned about different teaching and learning methods?

Q5 – Have I introduced new methods into my interactions with others? Which ones?

Q6 – Have these resulted in any changes in the relationships between myself and others? Have these been positive changes? In what ways?

Q7 – Do I intend to take my learning further? In what ways would I like to do this?

Q8 – Do I intend to share what I have learned more widely? Who would I like to share with? How can I do this best?

Although it is not essential, we would really like those who are registered for certification to submit their responses to these questions together with their Assignment 3 – many thanks!

Presentation 3.3 closes this module and the ToT course by making suggestions for future activities in which you could become involved in order to share your new understandings as widely as possible. It focuses on the potential for future field visits to demonstration sites and network building. It also describes other case studies of collaborative learning and working together in a learning network.

PRESENTATION 3.3: FUTURE SITE VISITS, NETWORK BUILDING AND CASE STUDIES OF COLLABORATIVE LEARNING

And Finally!

If you have come this far you will realise that you have been on quite a journey. This has introduced you to not only different ideas and practices associated with RWH&C, but also to different ways of working with other people and sharing

ideas and experiences with them. We hope that you have found it a worthwhile journey, and if you have chosen to complete the assignments for certification that you have been successful in that. We also hope that you do not see this as the end of the journey, but as a starting point for an exciting future of exploring and sharing many different agricultural practices to strengthen food production as all scales of farming. We wish you all the best for your future.

References

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