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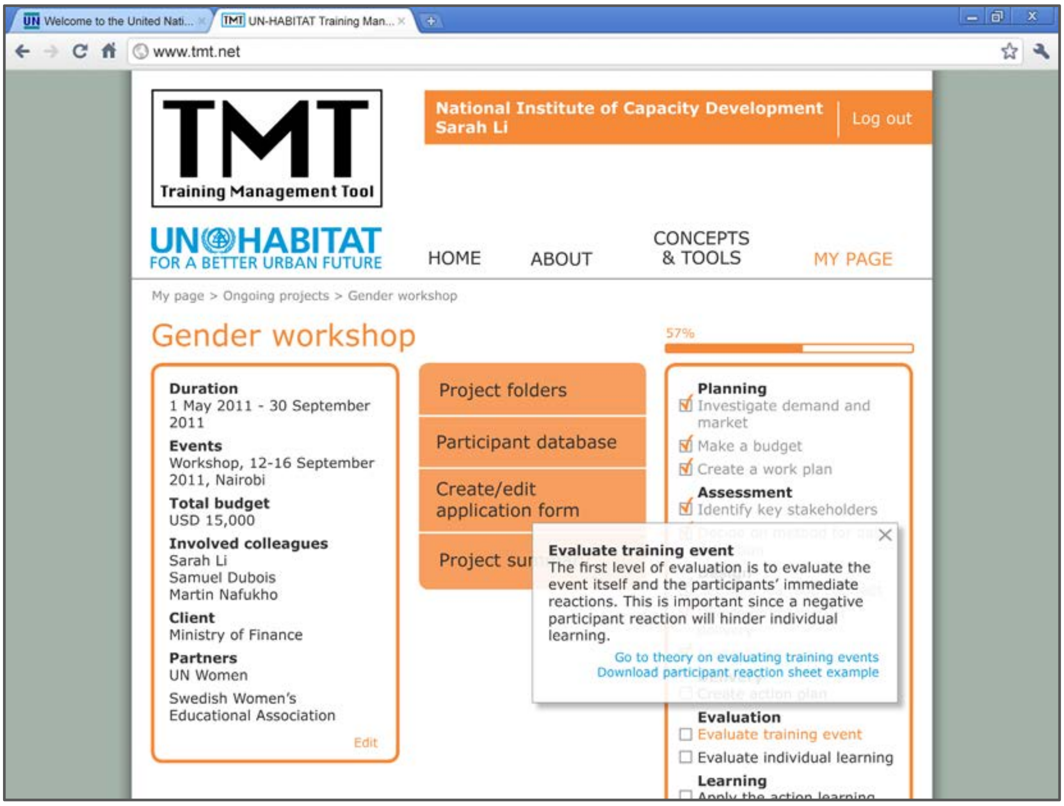

Development of an Online Training Management Tool

A User Centred Approach to Capacity Development

Master of Science Thesis in Industrial Design Engineering

HANNA HASSELQVIST

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Division of Design & Human Factors
CHALMERS UNIVERSITY OF TECHNOLOGY
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Cover: Visualisation of the training management tool. For more pictures, together with descriptions of the tool, see page 29-36.

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Finally, many thanks to all the representatives from training institutions who have shared their experiences or participated in testing the tool.

Hanna Hasselqvist

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Abstract

Urbanisation is an ongoing process all over the world, and in developing countries the growth of the urban population is particularly high. The rapid changes make the urban environment difficult to manage, and natural disasters as well as humanitarian crises make the situation even more complex.

This project has been carried out as part of an internship at the United Nations Human Settlements Programme (UN-Habitat) in Nairobi, Kenya. However, the views expressed herein do not necessarily represent the positions or opinions of UN-Habitat.

Among other things UN-Habitat is working with supporting capacity development for sustainable urbanisation, by training national or local training institutions in related topics. The institutes, in turn, train local authorities within their country, in order to strengthen the local capacity to manage the challenges of the cities. UN-Habitat has recognised that there is a need of supporting the institutes in developing effective training programmes, for the training to make a difference to the work of the training participants and to ultimately have an impact on the urban environment.

After studying and analysing different training processes of training institutions and the diverse contexts they work in, a concept of an online training management tool was developed and tested. The tool, an interactive website, was developed to support improved effectiveness as well as to make the training management more efficient.

The tool is combining theory on effective training with functions supporting implementation of theory in practice. A central function is an adaptable training project checklist, linked to theory on effective training, which provides the user with relevant information at any time of the training process. Other functions are project folders for organising and sharing material and an online application form connected to a database where training participants can easily be managed.

A mock-up of the website was tested with two training institutes and one training consultant in Kenya. In addition it was evaluated by training experts at UN-Habitat. Both the training institutions and the experts believed that the tool would be valuable to the work of the institutes. Support for structuring the training process, coordination of staff members and prevention of unnecessary duplications of work were some of the perceived benefits.

Keywords: Product Development, Industrial Design Engineering, Online Tool, Training Management, Capacity Development, Learning.

Sammanfattning

Fler och fler människor över hela världen flyttar från landsbygd till städer och befolkningstillväxten är extra påtaglig i många städer i utvecklingsländer. Urbaniseringen medför snabba, svårhanterliga förändringar i stadsmiljön och naturkatastrofer och humanitära katastrofer, som slår hårdast mot de fattigaste länderna, gör situationen än mer komplex.

Detta projekt har genomförts som en del av en praktik på FN:s boende- och bosättningsorgan (UN-Habitat) i Nairobi, Kenya. Dock representerar idéerna som uttrycks i denna rapport inte nödvändigtvis UN-Habitats ståndpunkter och åsikter.

UN-Habitat arbetar bland annat med att stödja kapacitetsutveckling för hållbar stadsutveckling genom att utbilda nationella och lokala fortbildningsinstitut i relaterade ämnen. Instituten utbildar i sin tur kommuner i landet för att de ska få bättre möjligheter att hantera utvecklingen av sina städer på ett hållbart sätt. UN-Habitat har insett att instituten behöver stöd för att kunna utveckla bra utbildningsprogram, för att utbildningen ska göra skillnad i kommunernas arbete och så småningom också ha en positiv påverkan på stadsmiljön.

Efter studier och analyser av hur instituten på olika sätt arbetar med att ta fram och leverera sina utbildningsprogram idag, och de olika miljöerna de verkar i, utvecklades och testades ett koncept för ett webbaserat verktyg för utveckling av utbildningsprogram. Syftet med verktyget är att det ska höja kvalitén på utbildningsprogrammen och samtidigt effektivisera de administrativa uppgifterna.

Verktyget kombinerar teori om bra utbildningsmetoder med funktioner som underlättar praktisk användning av metoderna. En central funktion är en anpassningsbar checklista för utbildningsprogram, vilken ger användaren rätt information vid rätt tillfälle under processen. Andra funktioner är ett system för att organisera och dela utbildningsmaterial samt ett webbaserat ansökningsformulär kopplat till en databas för att lätt kunna hantera utbildningsdeltagarna.

En mock-up av hemsidan testades av två institut och en fortbildningskonsult i Kenya. Verktyget utvärderades också av ett antal kapacitetsutvecklingsexperter inom UN-Habitat. Både instituten och experterna ansåg att verktyget skulle vara värdefullt för institutens arbete, bland annat som stöd för strukturering av utbildningsprocesserna, koordinering av personalen och för att förhindra dubbelarbete.

Nyckelord: Produktutveckling, Teknisk design, Webbaserat verktyg, Metoder för fortbildning, Kapacitetsutveckling, Lärande.

Contents

1. Introduction

1.1. Background

All over the world the urban environment is continuously changing and particularly so in developing countries where a rapid urbanisation is taking place. The least developed countries in Sub-Saharan Africa and South-Central Asia have an annual urban population growth of nearly 4 percent, to be compared with an average of 0.4 percent in Europe (UNDESA 2009). Managing these changes is a multidimensional task with very high complexity. Adding to the difficulty are natural disasters and humanitarian crises, which frequently strike cities in the world's poorest countries.

Although urban growth is correlated to national economic growth, far from all citizens benefit from the economic development (UN-Habitat 2008). In cities in the South, the developing countries, there are commonly huge gaps between different parts of the cities when considering what services are provided. Poor areas typically lack even basic services such as adequate housing, infrastructure and security.

Figure 1: Nyalenda slum (left) and Milimani (right) are neighbouring residential areas in Kisumu, Kenya.

Who is in charge of the local urban development depends on the level of decentralisation of the country. In decentralised countries local authorities, rather than national authorities, have the main responsibility for, and influence on, the development of the cities. This has the advantage that local authorities know the specific situation of their city and can better adapt general solutions for sustainable urban development to the local context. However, local authorities often lack both managerial competences and technical skills to deal with these complex issues.

The United Nations Human Settlements Programme (UN-Habitat) has recognised the need of capacity development of local authorities in order to move towards more sustainable urban environments. UN-Habitat works with areas such as Urban Planning, Urban Economy, Slum Upgrading, Disaster Management, and Housing. Training of local authorities in these topics is one way for UN-Habitat to support sustainable development of cities in the South.

There are many organisations involved in capacity development for developing countries besides UN-Habitat. The World Bank, the Organisation for Economic Co-operation and Development (OECD) and the United Nations Development Programme (UNDP) are some of the big international actors and there are numerous national organisations engaged as well. Training is a central development activity and the World Bank allocates on average 720 million dollars per year to support training activities (World Bank IEG 2008).

To reach out to as many local authorities as possible UN-Habitat often collaborates with training institutions in the South. By training the institutes in the expert fields of UN-Habitat "capacity to build capacity" is developed, which is also a more sustainable support in the long-term perspective compared to training local authorities directly. With the training institutions the knowledge is staying within the country, and training of local authorities can in theory continue long after external support programmes are terminated. However, in reality things are often more complicated. Training institutions are facing great challenges regarding promoting the importance of capacity development, financing training activities and developing and sustaining their own capacity.

Figure 2: Training and capacity development in two steps; UN-Habitat works with training institutions who in turn are training local authorities.

Another challenge is that good practice training is a rather elaborate process with several steps, and many factors affect the result. The field is being researched and theories and methods for effective training have been developed. Nevertheless, training programmes often lack crucial steps such as adequate assessment of training needs and evaluations on the training result. Consequently millions of dollars might be spent every year on training that is not relevant or training where the involved organisations do not know what impact, if any, their efforts have had.

For training institutions to improve their training effectiveness, so that the training makes a difference to the participants and their organisations, there is a need of making theory and methods on effective training more accessible to the institutes as well as supporting them in turning theory into practice. In addition, training management is a process with many actors, both internal and external, who have to be coordinated for maximum effectiveness and efficiency.

1.2. Purpose and objectives

The purpose of the project is to support training institutions in providing effective and relevant training programmes, in order to increase the capacity of local authorities to successfully deal with the issues of sustainable urban development. The approach will be to develop and test a concept for an interactive, digital training management tool which UN-Habitat can, if further developed, provide to training institutions and other partners.

The objectives of the training management tool are to:

» Provide the user with information relevant to each specific training programme, at the appropriate stage of the training process.

» Support practical applications of theory on effective and relevant training.

» Encourage use of assessment and evaluation methods.

» Facilitate learning from the user's own experiences.

» Make training administration more efficient.

1.3. Limitations

Due to the short time frame of the project it is not possible to develop a fully functional training management tool. To test the concept an interactive mock-up will be created.

The concept will be developed to target relatively small training institutions in developing countries. It will be in English and thus beneficial only to users with sufficient English knowledge.

Another limitation of the project is that no new theories or methods on training will be created, the tool will build on existing material on good training practice, mainly developed or provided by UN-Habitat.

Finally, the intention is primarily to support the institutes' internal management of training and not to provide a tool for broad external networking and sharing, since UN-Habitat is currently developing a platform for the latter[1].

1. UN-Habitat is developing the Urban Gateway, an online community targeting organisations and individuals working on urban development, see www.urbangateway.org.

2. Theory on training and capacity development

2.1. Definitions

Many organisations are involved in capacity development and consequently there are many definitions of the term. The Organisation for Economic Co-operation and Development (OECD 2006) defines capacity as *"the ability of people, organisations and society as a whole to manage their affairs successfully"* and capacity development as *"the process whereby people, organisations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time"*.

Ubels, Acquaye-Baddoo and Fowler (2010) are defining capacity as *"the ability of a human system to perform, sustain itself and self-renew"* and capacity development as *"changes in capacity over time"*.

A third definition, by the United Nations Development Programme (UNDP 2008), describes capacity development as *"the process through which individuals, organisations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time"*.

The capacity of a country, an organisation or individual is linked to its performance. Although capacity is no guarantee of performance the performance will for sure be poor if capacity is lacking. The purpose of external engagement in capacity development is to support, facilitate or catalyse the process in order to stimulate increased performance and achievement of development goals. (OECD 2006)

Traditionally, training of individuals in the organisations to be supported has been a central capacity development approach (Pearson 2010). What is meant by training varies between organisations and individuals, and training might also be confused with education. UNDP (2008) distinguishes the two approaches as follows:

> *"Education is commonly associated with the transfer of knowledge in a formal setting (a school, a university), over a longer period of time, that helps lay the foundation for further training and learning. Training, in comparison, tends to focus more on the transfer of specific skills in response to ad hoc needs, can also be informal, and is generally of a shorter-term nature."*

Simplified, training can be seen as a learning activity for professionals, to meet specific needs at their workplace, and education as the learning process to prepare for a profession.

The immediate objective of both training and education is learning, which is defined by the United Nations Educational, Scientific and Cultural Organization (UNESCO 1997) as *"any improvement in behaviour, information, knowledge, understanding, attitude, values or skills"*.

2.2. The training process

Not all capacity problems can be solved by training and other approaches might be more effective when the purpose of the intervention is to support application of techniques, rather than improving skills or knowledge, (World Bank IEG 2008) or when the context of the problem is of high complexity (Pearson 2010). There are many alternatives or complementary approaches to training, such as coaching and mentoring, experimental learning, e-learning, knowledge management and organisational strengthening (Pearson 2010).

However, when training is an appropriate approach the process and design of the training is crucial to its success (World Bank IEG 2008). In the Wold Bank evaluation (2008) of training for capacity development, the key factors that were found to contribute to successful training are good pedagogy, adequate support for transfer of learning and adequate targeting of training to meet with individual or organisational needs.

According to the ISO standards 10015:1999 *Quality Management – Guidelines for Training* (summarised in Pearson 2010), four main steps should be included in the training process; defining training needs, designing and planning training, providing for the training and evaluating the outcome of training.

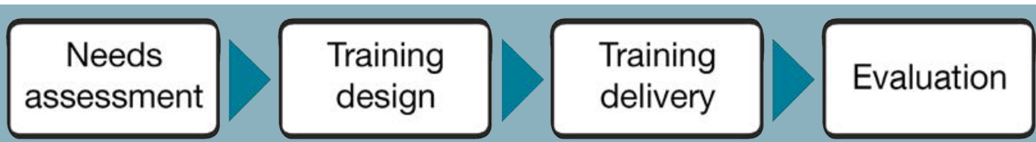


Figure 3: The main steps of the training process.

When assessing the individual and organisational needs both the existing capacity and the capacity required should be studied (World Bank IEG 2008). At this stage it is also important to explore the context and to see if training or another capacity development approach is likely to be most effective (Pearson 2010). The design of the training, both in terms of methods and time for delivering the training and training content, should be adapted to the participants and the identified needs (World Bank IEG 2008). Later, during the delivery of the training, it might be necessary to go back to the design stage and adapt the training in order to maintain its relevance (Pearson 2010).

To know whether the training was successful or not, and to see what factors contributed to the result, the training has to be evaluated. Kirkpatrick (1998) has identified four levels of evaluating training programmes. The first level is the *participant reaction*. Their immediate impressions are important to evaluate since a negative participant reaction will hinder learning. *Individual learning* is the second level of evaluation and it refers to changes in the participant's attitudes, knowledge or skills. Level three is to evaluate the *participant behaviour*, if the participant has applied what was learnt to his or her work. The last level of evaluation is the *result of the training* related to the training's ultimate purpose. In the context of urban development the fourth level would be to evaluate if the training has had an impact on the urban environment.

According to Kirkpatrick (1998) the first two levels are relatively easy to measure while the second two are considerably more complicated and costly. The first level, and to some extent the second, is also where most training evaluations end (Pearson 2010).

3. Process and methods

The project started as relatively open-ended and was gradually defined and concretised, first based on the opportunities discovered during the pre-study and later on the results from the user studies and the analysis. After the pre-study and the initial project definition all basic steps of the design process followed, up to testing the tool with potential users. Below is a model of the process and the main steps of the project.

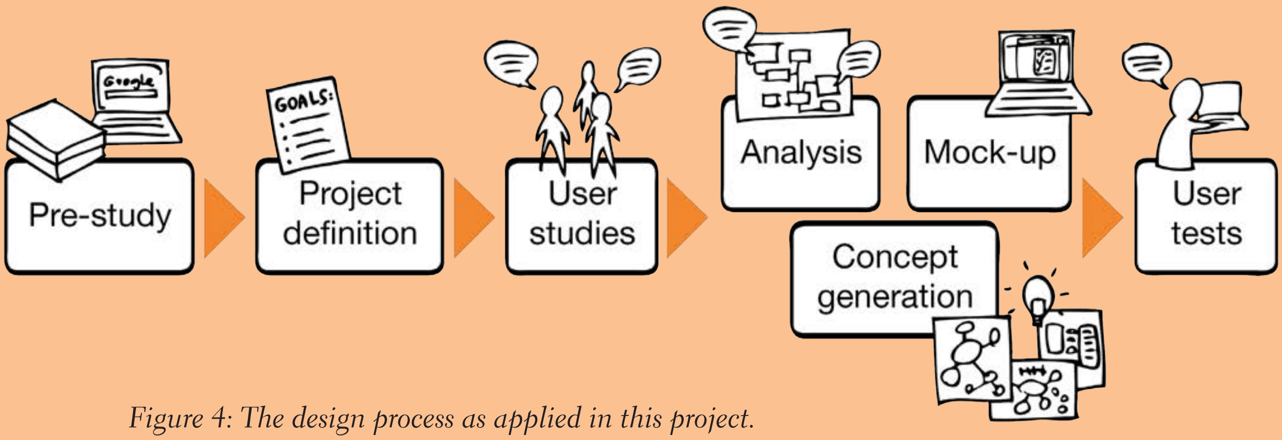


Figure 4: The design process as applied in this project.

Naturally the different stages of the design process have been overlapping and in particular the analysis, the concept generation and the mock-up design. Within the time frame of the project there was no room for iterating the concept generation and the user test phases. However, the objective was to provide material for UN-Habitat to determine whether to proceed with the project or not, by creating a conceptual design of the tool and conducting a first set of user tests.

3.1. Pre-study and project definition

Since the scope of the project initially was wide and rather diffuse, a pre-study was required to define the project. The area of training and capacity development, in relation to UN-Habitat and its partners, was explored to see how a design and engineering perspective could best be used to support the activities.

To get an understanding of the subject the pre-study included literature studies on training, learning and capacity development. In addition, two drafts of yet unpublished UN-Habitat material; *Manual on Training Needs Assessment and Training Impact Evaluation* and *Good Practice Note: Training*, were studied and used throughout the project.

As part of the pre-study the training and capacity development activities and approach of UN-Habitat were mapped through interviews, informal conversations and participation in meetings. In addition, a variety of UN-Habitat material, such as publications and tools on sustainable urban development, project documents, and information on the website, contributed to the overview.

The mapping of UN-Habitat was complemented by a stakeholder analysis to identify the stakeholders, and the relations between stakeholders, in training for capacity development in the South.

Based on the pre-study the project was defined, in consultation with UN-Habitat, and purpose, objectives and limitations were decided.

3.2. User studies

3.2.1. Interviews with training institutions

UN-Habitat's network of training institutions is spread all over the world and only a few are to be found in Kenya. Two institutes with office in Nairobi are Kenya Institute of Administration (KIA) and the Association of Local Government Authorities of Kenya (ALGAK).

To learn about how the training process is carried out in reality, and the reasons behind the ways the institutes work, one representative from each of the institutes above was interviewed. The interviewees were in both cases senior staff who are active as trainers and the interviews were held in their offices. This to facilitate them in describing their work but also to observe the environment where they are planning, and in the case of KIA also carrying out, the training.

Since the interviews took place in the very beginning of the user studies, when still quite little was known about the institutes, they were prepared to be semi-structured with flexibility to focus on what turned out to be most interesting. The guidelines and prepared questions that were used for the interview can be found in Appendix I. Each interview lasted for 1-1.5 hours, depending on the availability of the interviewee.

3.2.2. Participation in expert group meeting

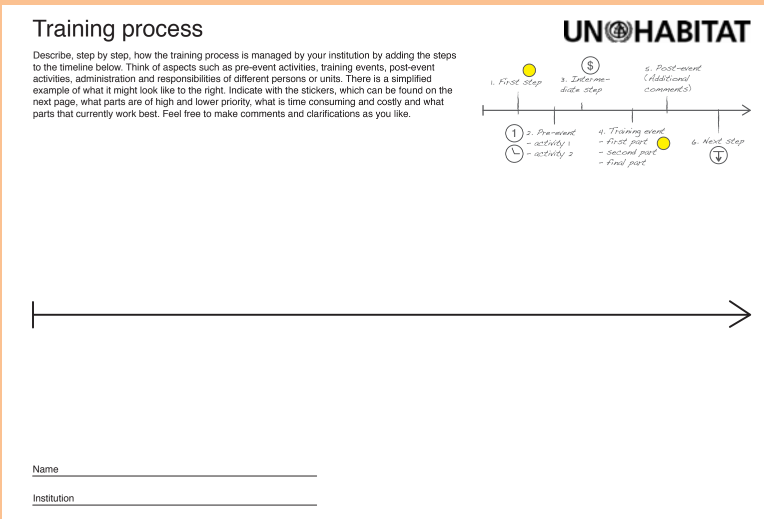
To better understand the similarities and differences of training institutions, their contexts and the challenges they face, training institutions were further studied through observations during an expert group meeting at the UN-Habitat Headquarters in Nairobi. The three-day meeting was organised by UN-Habitat in collaboration with two partner organisations and the purpose was for the participating institutes to share experiences and discuss how to strengthen their institutional capacity in order to better support their clients.

The expert group meeting had 34 participants from 26 countries, mainly representatives from training institutions. A diverse group of institutes were represented, both in terms of organisational setup and geographical spread, with participants from Africa, Asia, East Europe and Brazil. However, all institutes invited were considered to be among the stronger institutes of UN-Habitat's network.

As an extension of the expert group meeting UN-Habitat held a two-day workshop with twelve of the representatives from training institutions. The purpose of the workshop was to review the *Manual on Training Needs Assessment and Training Impact Evaluation*, currently being developed by UN-Habitat and a partner organisation.

3.2.3. Training process mapping

During the two-day workshop the opportunity was taken to conduct a short exercise in order to capture the different ways training institutions manage their training process. The participants were asked to individually visualise a typical training process of their institute by writing and drawing the steps on a sheet with a timeline. Stickers were provided for the participants to indicate what step is of highest priority, of lowest priority, most time consuming and most costly. There were also three stickers for indicating what steps are working well, which implicitly reflects what is working less good since not all steps could be marked. The visualisation sheets were later used during focus group discussions and then collected for further analysis. For the full size training process visualisation sheet, see Appendix II.


Training process

UN-HABITAT

Describe, step by step, how the training process is managed by your institution by adding the steps to the timeline below. Think of aspects such as pre-event activities, training events, post-event activities, administration and responsibilities of different persons or units. There is a simplified example of what it might look like to the right. Indicate with the stickers, which can be found on the next page, what parts are of high and lower priority, what is time consuming and costly and what parts that currently work best. Feel free to make comments and clarifications as you like.

1. First step
2. Pre-event
- activity 1
- activity 2
3. Intermediate step
4. Training event
- first part
- second part
- final part
5. Post-event (Additional comments)
6. Next step

Name

Institution

Figure 5: The training process visualisation sheet.

The sheet was pilot tested during the interviews with KIA and ALGAK as well as on two training experts of UN-Habitat. It was tested and changed several times to achieve a balance between supporting the user in recalling their own process and being open enough to not impose answers.

The idea of visualising the work process of the institutes is based on the methods of contextmapping and generative techniques, where the users by creating something visual become aware of, and more easily can express, their experiences. Contextmapping is a comprehensive process where the users are first sensitised by being given preparatory exercises to do over the time of a few days or weeks, in their own environment. Later they attend a generative session where they create a two or three dimensional artefact which is being used to tell about their experiences, concerns, memories or dreams. (Sleeswijk Visser 2005)

To fit within the framework of the workshop the method was simplified and did not include any sensitisation. Despite the modifications of the method the key element, where the user first creates an artefact, in this case visualises the training process, and later uses it to tell about their experiences, was thought to have potential of supporting the studies.

3.2.4. Focus group discussions

Two focus group discussions on training management and related issues were organised for the twelve participants of the workshop. They were divided into two groups and both discussions were scheduled for 30 minutes during lunch time. The participants had been asked to bring their training process visualisations to support the discussions. A specific focus was directed to how the training institutions use digital aids in their work and how IT tools and Internet potentially can facilitate training management.

3.3. Analysis

3.3.1. Material from user studies

To create an overview of the material collected and information elicited during the user studies a KJ analysis was carried out. The KJ method was developed in the 1950s by Jiro Kawakita as a way of drawing conclusions from large amounts of qualitative data without loosing the holistic perspective (Ramon Magsaysay Award Foundation 1984).

For the KJ analysis information was selected and written on pieces of paper, with one piece of information per piece of paper. The information was then reviewed one piece at a time and grouped according what other information it related to. A training expert from UN-Habitat, who also participated in the expert group meeting and workshop, was asked to take part in the KJ analysis to create discussion and add a capacity development perspective.

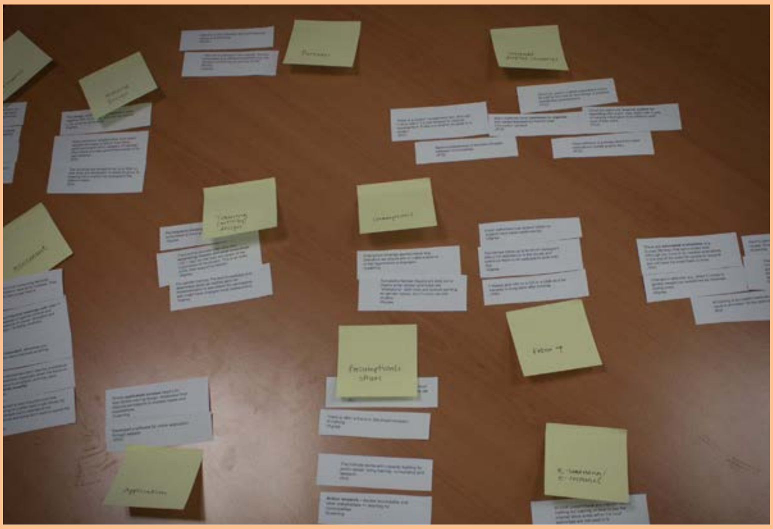


Figure 6: KJ analysis.

Other material analysed were the results from the training process visualisation, which were compiled into a table to highlight similarities and differences and identify critical steps in the processes. In addition, a strengths, weaknesses, opportunities and threats (SWOT) analysis created by the participants of the expert group meeting was used for the project.

3.3.2. Existing products supporting training management

In order to see if there already exists a system that partly or fully meets the training institutions' needs, and to see what complementing products to take into consideration when developing the training management tool, the market for products supporting training management was scanned by searching on the Internet. In addition, literature about learning management systems was studied.

3.3.3. Formulation of functions and requirements

When the information from the user studies had been compiled and analysed it was translated into list of functions and requirements. The list was edited in parallel with the concept generation; requirements or functions were added, removed or further specified as the concept was taking shape.

The technical requirements and their implications on the design of the tool were discussed with an IT manager with experience of many different IT systems. Together with the IT manager the challenges of the potential types of systems for the tool were listed, taking the requirements into consideration. During a second meeting with the IT manager the generated ideas on functions for the tool were discussed and rated from a complexity perspective.

3.4. Concept generation and selection

3.4.1. Ideation and visualisations

As a start for the creative process mind maps were used to generate ideas on what functions that could be included in the tool to make it meet the objectives of the project. One mind map for each of the five objectives was created. Later the most promising ideas from the mind maps were sorted according to what part of the training process they would support and more ideas were added.

To structure the functions of the tool within the system a flowchart was created and revised several times during the development process. The flowchart was also used to decide what functions to include in the user tests and consequently it was central for the design of the mock-up.

The functions were roughly visualised and discussed with UN-Habitat. After deciding which functions to proceed with detailed sketches on how to structure all the elements of the functions were made. A mood board with screen shots of inspiring websites, shapes and colours was created based on selected values of the United Nations and other specific qualities wished to be expressed in the tool. UN-Habitat's brand manual was used for selection of font and colours.

Figure 7: Mind maps (above) and structuring of ideas (below) were initial parts of the concept generation.

3.5. Mock-up

To get feedback on the functions of the tool, and the overall usefulness to training institutions, a mock-up was built. It was designed to look realistic with interactive elements for the users to get a feeling for what using the tool would be like. Visuals for the mock-up were created in InDesign and later combined with the interactive elements in a power point slide show.

The focus of the mock-up was on describing the main functions of the tool that would add value to the user's training management, and the mock-up did therefore not include all support functions required for the system to work. At this stage is was a priority to create visuals for the users to understand and evaluate the functions, in order for UN-Habitat to decide on if to proceed with the project. Other important qualities of the tool, such as a user-friendly interface, will be challenges for future development if the project is continued.

3.6. User tests

3.6.1. User tests with training institutions

User tests were carried out with representatives from two training institutions; the trainer from ALGAK who also took part in the user studies and a trainer from Matuga Government Training Institute with office outside Mombasa. A test session was also arranged with an independent training management consultant often working with Kenyan training institutions. The sessions were between one and two hours, including interviews, and held in the users' office.

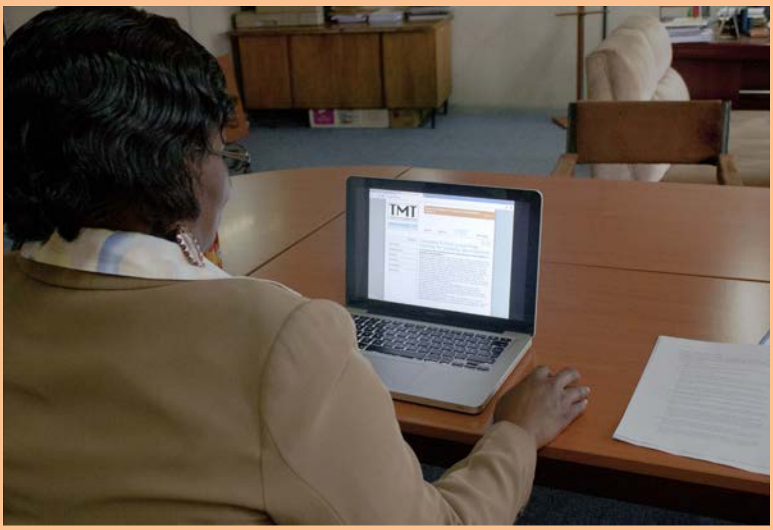


Figure 8: User test at ALGAK.

Due to the limited functionality of the mock-up and the short time for testing, considering that the system is intended to be part of everyday tasks for a long period of time, the tasks the users were asked to perform were alternated with descriptions of the functions and how they could relate to the work of the institute. For some tasks, where the user had to add information to the system, printed forms were used. The tasks for the user test, together with the support material, can be found in Appendix III.

The testing of the mock-up was followed by a questionnaire for the users to rate the functions of the tool based on how useful they are in the context of the institute. A scale in five steps, from “not useful” to “very useful”, was put next to a visualisation of each function. When the mock-up and the questionnaire were pilot tested with a training expert at UN-Habitat the user only had three steps for rating; one negative, one slightly positive and one very positive. However, the negative option was never used and since it was learnt from previous experiences that people are sometimes unwilling to be negative, the scale was extended. For the final version of the questionnaire, see Appendix IV.

To elaborate on the answers of the questionnaire and investigate the overall functionality of the tool, the test session was concluded by an interview, see Appendix V for the interview questions. The user was asked to explain why the functions would be useful or not to their institute and questions were asked about potential barriers to using the tool. A semi-structured approach was taken and the prepared questions were used as a starting point for further discussion.

3.6.2. Additional feedback

It was only possible to arrange personal meetings for user tests with Kenyan training institutions. In order to receive feedback from a wider range of institutes a document with selected pages of the mock-up was put together and descriptions of the functions were added. It was sent electronically to ten of the training institutions who participated in the expert group meeting and feedback could be given via an online feedback form, similar to the questionnaire used during user tests but with room for comments, or via email. The selected institutes were the institutes thought to be most likely to take the time to review the tool, however only two institutes responded.

Additional feedback was gained through demonstrations of the mock-up, followed by discussions, with training experts at UN-Habitat. Their feedback was based on both experience of planning and conducting training themselves and experience of working with training institutions.

4. Result

4.1. Stakeholders in capacity development

There are many stakeholders involved in training and capacity development for sustainable urbanisation in developing countries. Either they have an impact on content and delivery of training programmes or they are affected by the results.

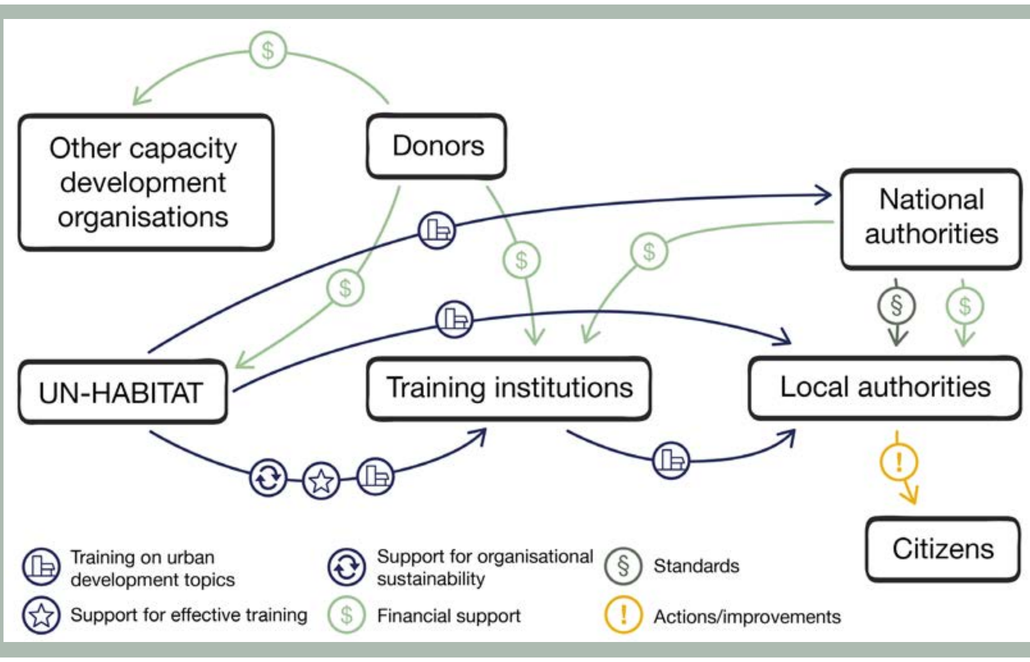


Figure 9: The stakeholders in capacity development, with focus on UN-Habitat and its activities.

UN-Habitat does research and develop training tools as well as organises training and other capacity development interventions. The agency works with both training institutions and local or national authorities on topics such as governance, gender, leadership, economy, water and sanitation, land, and climate change. A key activity in the capacity development work of UN-Habitat is to develop tools, usually in form of publications, to support the training or to be used independently. Recently the Training and Capacity Building Branch of UN-Habitat initiated a capacity development programme on strengthening training institutions by investigating factors for organisational sustainability and promoting use of methods for more effective training.

Other capacity development organisations, mainly in the North, have similar activities as UN-Habitat.

Donors are involved by funding training programmes and other capacity development activities. Since many training providers are dependent on donors the donors have a great influence on what is being trained and how.

Training institutions are both recipients and deliverers of training. They are often tied to the national government but can also be partly or completely independent. UN-Habitat collaborates with training institutions to increase the outreach of the training. For example, if UN-Habitat trains three institutes on the topic of participatory budgeting the institutes might, in turn, train three local authorities each. In the end this results in nine local authorities knowing about participatory budgeting, provided the training was successful. Working with national training institutions is also a way of supporting a sustainable development where developing countries become less dependent on external actors. The training institutions are the primary users of the training management tool.

Local authorities have a crucial role in urban development, they are best suited to adapt theories on sustainable urban development to the local context and decide what actions to take in their city. Local authorities are usually the main client of training institutions and officials of local authorities are the target group. The officials, or other training participants, and their managers are secondary users of the tool.

National authorities often finance training and are occasionally also recipients of training. Since the national authorities set the legal framework of the countries they affect local authorities and their activities. How great the influence is depends on the country's level of decentralisation.

Citizens benefit from improvements of the urban environment, and are also highly affected by misdirected actions or lack of actions. Ideally the citizens have an influence on local authorities and the local development by participating in planning.

4.2. Training institutions and their contexts

4.2.1. The diversity of training institutions

Despite the common ground of having the "capacity to build capacity" training institutions make a rather heterogeneous group. The institutes can be regional, covering several countries, or national and there are also local institutes attached to a specific city or part of the country. Organisational structures and business plans varies considerably between institutes. They can be part of a government or university and financed through that, or private institutes, relying on donors, partners or incomes from training. Mixed models, combining the public and private institutional setup, are also common.

The size of training institutions varies as well, from a few employees to more than one hundred. Many institutes work with external staff or partners to develop training material or conduct training. The type of training can be anything from short courses, with many participants, given at a campus to tailor-made training for a specific department of a local authority. Not all activities fit in the category of traditional training, other capacity development interventions are carried out as well. Officials of local authorities, particularly senior managers, are the main target of the training but some institutes also train staff from non-governmental organisations and private sector.

4.2.2. The demand for and challenges of training and capacity development

In developing countries there is indubitably a great need for training of local authorities in urban development issues. Cities are complex systems and the complexity is increased by high rates of urbanization and thus rapid changes of the urban environment. In many countries there are also ongoing changes in political and institutional environments. Although training is carried out there is a continuous loss of competences within the local authorities. Politicians might not be re-elected and other officials often move on, for instance to private sector or international organisations, after being trained.

When training institutions during an expert group at UN-Habitat analysed the internal and external factors affecting their work, the need for capacity development of local authorities was identified as an opportunity. See Table 1 for the meeting participants' summary of the analysis.

Another significant factor is the financial aspect. It is often difficult for training institutions to mobilise the resources to finance training programmes and there is a lack of societal and governmental awareness of the value of support for capacity development. Corruption and vested interests are adding to the difficulties and the fact that donors frequently change their priorities makes long-term economical sustainability hard for institutes relying on donors.

Competition with other training providers was perceived as a threat and some training institutions did not feel they had sufficient capacity too meet with the competition. Contributing to this is a high staff turnover at many of the institutes, since valuable knowledge, experience and training material is lost when a member of staff quits.

In the analysis by the training institutions there are some conflicting factors, such as the strength of "appropriate institutional structures" and the weakness of "poor management and weak internal structures", which again is a reminder that training institutions are far from identical.

Table 1: Result from SWOT analysis conducted by training institutions.

Internal factors	
Strengths	**Weaknesses**
Capacity to create partnerships and networks The institutions' ability to link knowledge and practice Existing flexibility and innovation Capacity to develop demand driven courses The political independence Relevance to enhance the capacity of stakeholders – closer to the needs Appropriate institutional structures Independence through multiple sources of funding	Mobility and volatility of staff and lack of practical trainers as well as inability to attract and retain best staff and talent The difficulty in mobilizing resources to finances training courses Insufficient capacity to operate in a free market Poor management and weak internal structures Limited funding sources Supply driven
External factors	
Opportunities	**Threats**
The context of decentralization and the devolution of authority and responsibility The context of the urbanization and complex problems create demand The fast and continuing changes in political and institutional environment in many countries Need of local authorities for practical relevant and easy to learn and use skills knowledge and practices Global concerns such as climate change, economic crisis The current reforms that are going on in different countries such as constitutional reform	The negative effect of per diems and expectation of them from training participants The heavy dependence on external financing Lack of national policy framework for capacity development that contains among others standards incentives, linked with performance management and certification systems The lack of societal awareness valuing capacity development Competition Corruption and vested interest The multiplicity of training centres Donors' ever changing priorities

4.2.3. Training processes

From the training process visualisations created by training institutions four main steps of the training process could be identified; needs assessment, training design, training delivery and post-event evaluation. The steps match well with what is suggested by theory to be included in a training programme.

All twelve institutes who completed the exercise included the steps of training design and training delivery and ten of the institutes included assessment and post-even evaluation. Delivering the training is the part of the process that was most frequently indicated as an activity that works well. It was also considered to be most costly.

Figure 10: The users' visualisations of their training process.

Assessment of training needs was of highest priority to six of the institutes and it was also frequently indicated as working well. However, in two cases assessment was given lower priority and it was twice mentioned as the most costly activity.

The by far most time consuming part of the training process is according to the institutes preparations in form of training design and logistical arrangements. These steps were also indicated as costly and often as working well.

Post-event activities such as evaluation, follow-up, reporting and revision of training programmes were indicated to be of lower priority to the training institutions, although some institutes did not indicated any step as lower priority. Compared to the other three main steps of the training process, post-event evaluation was rarely indicated as working well.

A table summarising the result of the training process visualisations can be found in Appendix VI.

Needs assessment

Although needs assessment was considered by training institutions to be of high importance and working well, many issues were raised when discussing the assessment stage. First of all some training institutions found it hard even to find the funding to include assessment in their training process. It is also time consuming since it requires involvement of all stakeholders and meetings with the often very busy stakeholders is difficult to coordinate. In addition stakeholders can be unwilling to engage since they do not get any immediate benefits from the assessment.

Different levels of assessment are carried out by the institutes, from informal meetings with local authorities to problem analyses and tests of training participants current knowledge and skills. To have close relations with the clients was said to make both the assessment and evaluation easier.

Training design

When relevant competences or resources for designing the training, and sometimes also delivering, can not be found within the training institutes they work with partners or engage external experts. A great willingness to share experiences and collaborate with other institutes was observed among the training institutions in the study, although the issue of competition was emphasised by the institutes.

During interviews and meetings with training institutions it became clear that a careful selection of participants is a key to the success of the training. The training participants were seen as potential change agents by the training institutions, but in order for a change to take place when the participants return to their workplace persons with motivation and an appropriate background have to be selected. The application process is a possibility to learn about the participants' motivation and background as well as their needs and expectations on the training. This information can also be used to adapt the training design to the needs of the participants.

For the training to have an organisational impact the participants must have the mandate to implement what has been learnt when returning to their job. Therefore the participants' managers should be included in all phases of the training process.

Training delivery

One way mentioned to increase the probability of organisational impact and to get important persons onboard is to start the training event by sensitising managers, chief executives or mayors on the subject. If they understand the purpose of the training it is assumed that they are more likely to later support the participants' in applying what they have learnt.

In the end of a training event it is common to evaluate the participants' immediate reaction. Usually the training institutions do this by having the participants to fill in questionnaires, although it is not clear what they do with the information they gather. Only two institutes claimed in the training process visualisation to review and adapt their training after evaluating.

Follow-up and post-event evaluation

The institutes that have included follow-up activities in their training programmes could see a great difference in how well the participants' applied their learning in their work, compared to when follow-up was not possible or prioritised. A very simple form of follow-up suggested by an institute is to in the end of the training event distribute support material for the participant to bring back to work.

One reason why training institutions do not include follow-up activities and evaluation in the training process is that, just as for assessment, it is hard to get funding. There is commonly a focus on output, for example how many participants have been trained, rather that what results have been achieved. Consequently the follow-up activities to reach those results are never planned. Measuring results is a quite complicated procedure, that has to be built in early in the training process, and in addition it is often hard to determine if training or other factors are the cause of the result. Another reason why training institutions do not conduct evaluations beyond the level of participants' reaction might be that it takes time before results can be seen. When the results could be measured the training programme is since long over and people are busy with new projects.

4.2.4. Training institutions and IT tools

All training institutions in the study use computers and Internet in their daily work. Internet is mainly used for communication with clients and participants through email and websites. Some institutes provide training material to download via their website. Databases to organise their network of partners was another tool used by a few institutes, although a problem is to keep the databases updated. Other functions mentioned were a tailor-made system for online applications and a software to process data from paper evaluations.

A number of institutes use online surveys to evaluate training events. The usefulness of online surveys for this purpose should, however, be limited. It was commonly recognised that surveys have to be given to the participants in immediate connection to the training, preferably as the last activity of the event, for the participants to respond.

The training institutions could see a shift from traditional training towards e-learning, although the experience of e-learning was that it does not always work well. Not all training participants have Internet connection or access to Internet with sufficient bandwidth. There is also a lack of knowledge on how to use Internet and computers within some local authorities. The IT resources of both local authorities and training institutions varies greatly. One institute works with video conferences to communicate with some of its clients while another institute frequently has to convince new clients to create email accounts.

4.3. Existing training management products

A number of publications regarding effective training and capacity development are provided by different development agencies. The publications seems to target mainly actors and donors in the North but could be relevant for training institutions as well, although the publications are not well adapted to assist training institutions in their daily management of the training process.

With regard to efficiency there are many digital systems supporting general project and knowledge management. There are also systems to manage and keep record of internal capacity development within organisations. Another type of products is learning management systems, which are used to automate the administration, tracking and reporting of training events (Ellis 2009). The learning management systems that were studied provided functions such as participant registration, distribution and collection of assignments, creation of discussion groups and distribution of learning material. In general the learning management systems seemed to focus on the interaction between the training provider and the trainee and on providing solutions for distance learning.

In addition there are separate products that could potentially be used for increased efficiency, although they are not specifically targeting training and capacity development projects. Products such as Microsoft Excel and Open Office Calc could be used for budgeting or calculations and graphing to analyse data and Dropbox or Google Docs are existing tools, free of charge, for sharing and saving documents online.

None of the systems or tools studied were explicitly targeting institutes in developing countries. Neither were any products found that are combining support for both effective and efficient training.

Figure 11: Moodle is a free learning management system which can be used to create and manage online learning activities. www.moodle.org

4.4. Functions and requirements

The main function of the tool is to support efficient and effective training by:

» Providing the user with information relevant to each specific training programme, at the appropriate stage of the training process.

» Supporting practical applications of theory on effective and relevant training.

» Encouraging use of assessment and evaluation methods.

» Facilitating learning from the user's own experiences.

» Making training administration more efficient.

Listed in Table 2 are functions and requirements that will contribute to the fulfilment of the main function.

Table 2: Functions and requirements for the training management tool.

Functions and requirements
User aspects
Possible to personalise and adapt to specific institutional needs
Intuitive also to people with low experience of computers and Internet
Functionality
Support internal exchange of material/documents (Microsoft Office files)
Store data (participants, programme, tools/material, evaluation) from past training programmes/events
Documenting learning from latest activities/experiences
Facilitate communication with financers (especially regarding assessment and evaluation)
Facilitate communication within organisation
Encourage user to seek information/tools from other sources
Technical requirements
Work with low-capacity Internet connections
Provide offline functionality
Work with "slow" computers (low memory and processor capacity)
Compensate for loss of power or connectivity
Provide feedback to UN-Habitat on how it is used
Allow for gradual improvements/updates
Other
Communicate straightforwardness, inclusiveness and development
Free of charge to use

4.5. Concept generation

4.5.1. Choice of type of solution

The two alternative types of solutions that were investigated and compared were to make a program and to make a website. See Table 3 for a list, created together with an IT manager, of the challenges with respective type of solution.

It was decided that a website is a preferable solution, since it is easier to adapt to the different systems users currently have and it requires less resources to maintain. The main challenge with a website is that it is dependent on the user's Internet connection and compared to a program the functionality is somewhat limited.

Table 3: Challenges with the respective types of solution.

Challenges with respective type of solution	
Local client program	**Web based client (website)**
Complicated to update	Dependent on Internet access
Has to be adapted to different operating systems	Limited by speed and capacity of Internet connection
Updates of operating systems can affect the program	Higher requirement on uptime (UN-Habitat server)
Technical support has to be provided to each customer	Has to be adapted to different browsers
Hardware on the computer can affect the program	Limited functionality
Other programs on the computer can affect the program	
Development of a programs is complicated, takes a lot of time and is expensive	

4.5.2. Technical requirements' implication on design

Videos, animations and high-resolution images should be avoided for the website to work well for users with low-speed Internet connection and slow computers. Images should not be used in cases where the desired elements can be programmed. The option of downloading and uploading documents to work on offline can be provided as an alternative to do work online.

To allow for gradual improvements and adaptations of the system it is useful to allocate space for extensions already in the first design. It is usually harder to add functions, such as categories in a database, afterwards than to remove or hide things that are no longer needed.

4.5.3. Ideas on functions and structure

For the website to be adaptable to each training institution it has to have accounts to which the users can log in. One idea was to have several access levels, so that the content and functions accessible would depend on if it is an administrator, an internal staff member, an external partner or a training participant logging in. Many of the functions would then be affected by the access level and it has to be determined which functions and content each type of user can see.

In Table 4 some of the ideas on functions for the tool are listed and sorted according to during what part of the training process they would be used. It is also indicated which functions would have to take access levels into consideration, how complex the function is estimated to be to develop, and if it was selected for further development.

The selected functions were organised in a flowchart to visualise how they are related and the overall website structure. To include new ideas and support functions the flowchart was restructured several times, see Figure 12 for the different stages. For the final flowchart, see Appendix VII.

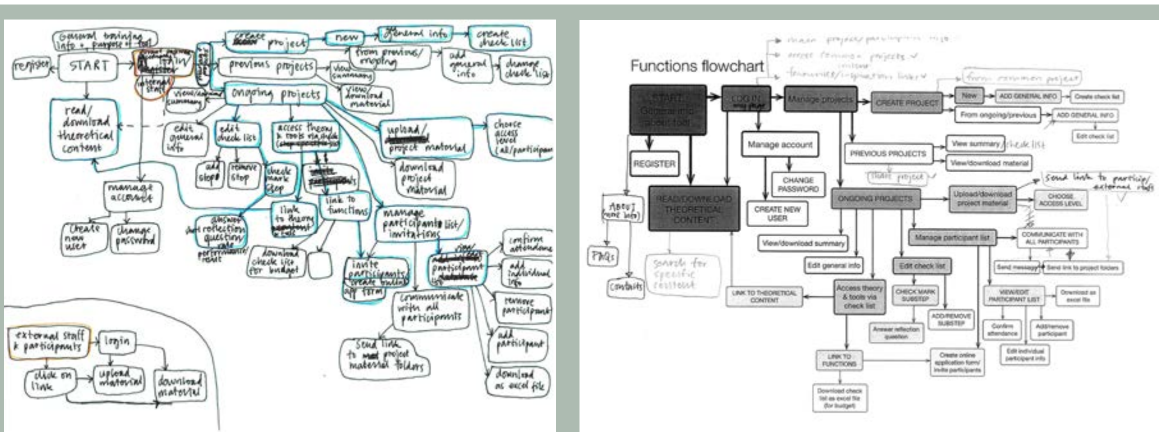


Figure 12: Development of the website structure.

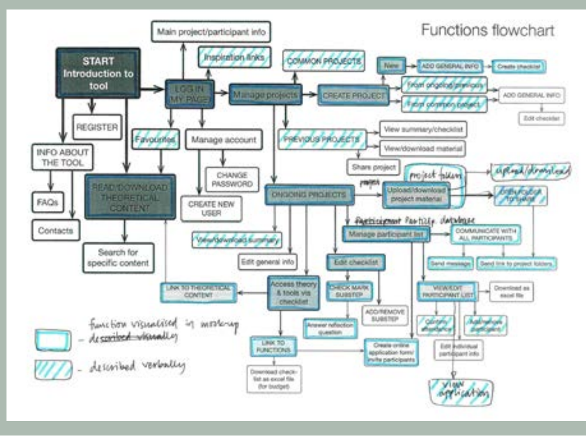


Table 4: List of potential functions, dependence on access levels, their complexity to develop and if they were selected for further development.

Function	Affected by access levels	Development complexity (1-3)	Selected for further development
General			
Access levels	X	3	Partly
Create projects	X	2	Yes
Project overview		1	Yes
Visualise project progress		1	Yes
Project folders	X	2	Yes
Information filters/search function		2	Partly
Highlights/popular content (what others read/download/use)		1	No
Favourites/tag content	X	1	Yes
Create inspiration list (links to external websites)		1	Yes
Planning/start-up			
Project checklist/planning tool	X	1	Yes
Budgeting tool (linked to planning tool)	X	3	No
Stakeholder overview (combined with project overview)		1	Partly
Assessment			
Design			
Create online application forms		1	Yes
Participant database (linked to application form)		2	Yes
Delivery/follow-up			
Share material with participants (share project folder externally)	X	2	Yes
Evaluation			
Visualise "level of impact" (what level of impact that is evaluated for each project)		1	No
Visualise quantitative evaluations		1	No
Learning			
Reflection questions (after each step of training process)		1	Yes
	1 - low complexity 2 - medium complexity 3 - high complexity		

4.5.4. Visual expression

Since many of the users are relatively new to working with computers and the Internet the tool should not only be easy to use but also express straightforwardness. In addition it should communicate development, which is the tool's main purpose to support, and express the United Nations' value of inclusiveness. See Figure 13 for the mood board created to visualise the desired qualities. The following colours have been used for the mood board:

» Blue, RGB 0, 152, 219 (UN-Habitat primary colour).

» Grey-green, RGB 89, 112, 93 (UN-Habitat primary colour).

» 40 percent tint of grey-green.

» Orange, RGB 246, 146, 64 (one of UN-Habitat's secondary colours).

» Green, RGB 98, 155, 55 (additional colour).

Figure 13: Mood board. Screen shots from www.un.org (bottom left) and www.openaid.se (top right).

4.6. Final design

The final concept of the website has three types of pages; general content pages that can be accessed by anyone without logging in, “My page” with user specific content, and project pages that can be accessed by all staff involved in a project. To create and access the accounts with user and project specific pages the training institutions first have to register.

4.6.1. General content and functions

Start page

Basic information about the tool and its main purpose and potential benefits are presented on the start page. This is also where the user can log in and the institute can register to create an account.

About page

On the “About” page more information about the tool and the different functions will be available. It will guide the user in how to get the most out of the tool and this page is also where frequently asked questions and contact information can be found.

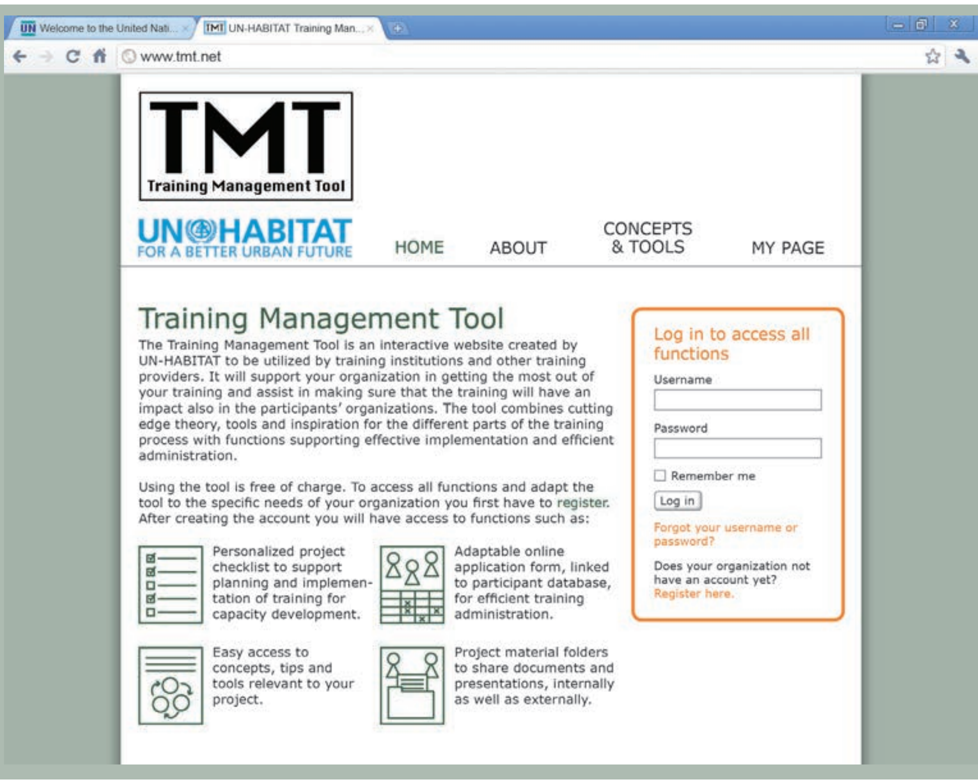


Figure 14: The start page of the training management tool.

Concepts & tools

The “Concepts & tools” page is where the theoretical content can be accessed. Usage of the word theory has when possible been avoided, since theoretical content might be perceived as boring and not related to practice. For each of the main steps of the training process there will be an overview of the purpose and the key activities that should be included. Related material is sorted in three categories; tools, inspiration and in-depth theory. Tools refers to material such as templates, examples and guidelines that can be downloaded and directly support the user. In the category “inspiration” case studies and links to external inspirational material can be found. Finally, the in-depth theory thoroughly describes each sub-step of the selected stage of the training process. See Figure 15 for a visual example of the Concepts & tools page for the evaluation stage.

The traditional training process, with the steps assessment, design, delivery and evaluation, has been extended to include a planning step in the beginning and a learning step in the end. Planning was added because in practice training projects have to be planned before assessment can begin. Learning, which in this case refers to what the training institution can learn from their projects, was added as a step to stress its importance.

In addition to browsing the content the user can search for specific content via a search function. Users with an account can, when logged in, save pages of interest in a list of favourites.

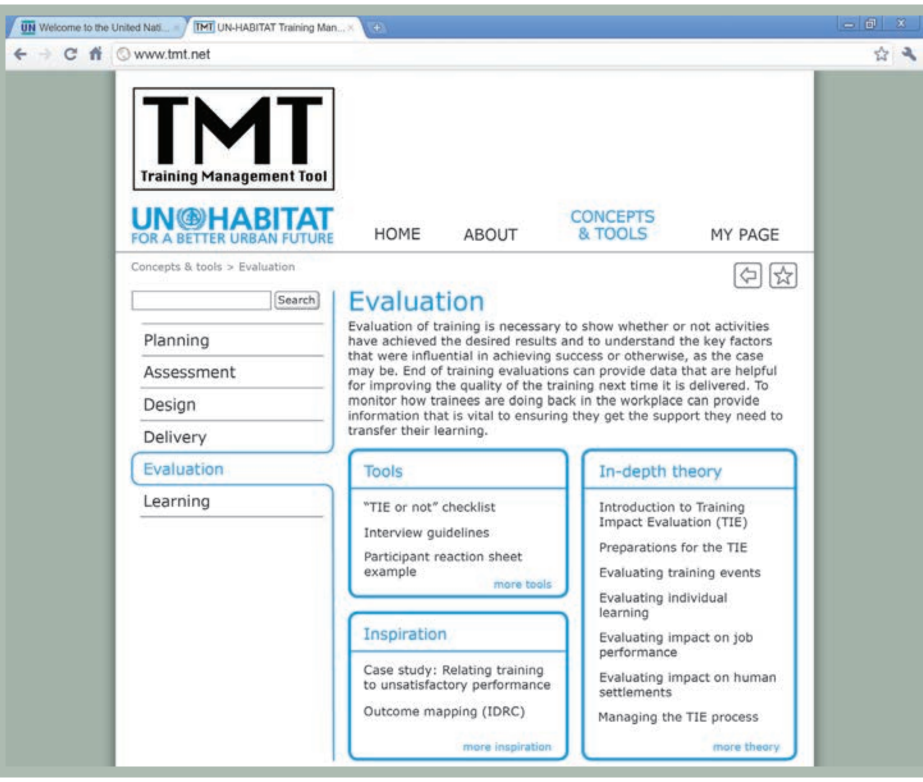


Figure 15: Theoretical content of the website, accessible without logging in.

4.6.2. "My page"

After logging in the user will get access to the information on their personal account. To not overload the users with information only a part of the content is common to everyone within the institute and the rest is specific to the individual user. From "My page" most of the functions of the tool can be accessed. Projects can be created and shared with involved staff and previous or ongoing projects, and related material, can be viewed or edited.

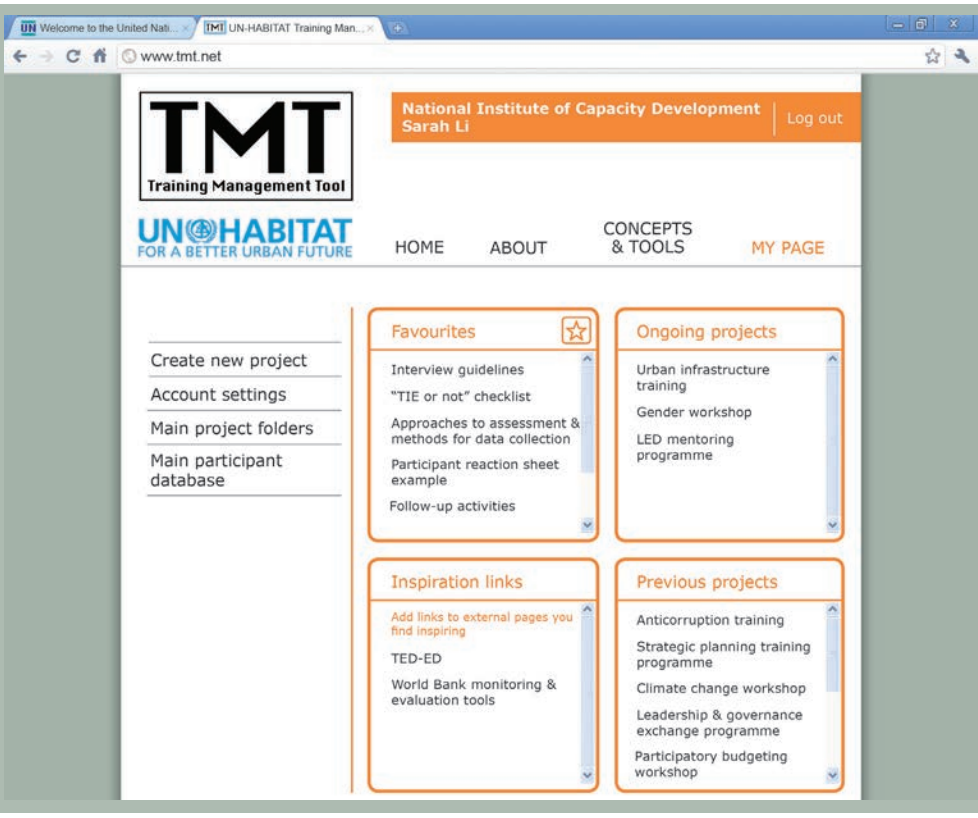


Figure 16: "My page".

Create new projects

To use the tool to manage a project the user first has to create a new project. Projects can either be created from scratch, be built on a previous project of the institute or be built on a project created by another institute. When a project is created from scratch the user has to add general information about the project and select which colleagues to share the project with. Finally the user selects steps, from a predefined list of steps for good practice training, to include in a project checklist. Each step is briefly described to give the user an introduction to why and when the step is important. See Appendix III, "Create new project – step 3", for a draft on what steps the users can choose from.

When a new project is built on a previous or external project the user edits the above mentioned information and checklist to suit the new project. The option to build on a previous project is useful for example when a training institution delivers similar training programmes to many different clients.

Access projects

Via “My page” the user can access ongoing projects and related content and functions, which are further described in the next section. In addition the user’s previous projects can be viewed and material downloaded. If the institute is willing to share details and material from a project it can be uploaded to a database where other institutes can use it when creating new projects.

Favourites and inspiration list

Two functions for personalisation of the website are a list of favourites and an inspiration list. The list of favourites is linked to the “Concepts & tools” content to provide the user with a shortcut to selected material. The inspiration list is a tool for the user to save links to external pages related to training.

4.6.3. Project pages

When a project has been created the related information, uploaded material and functions to support project management can all be accessed from the specific project page.

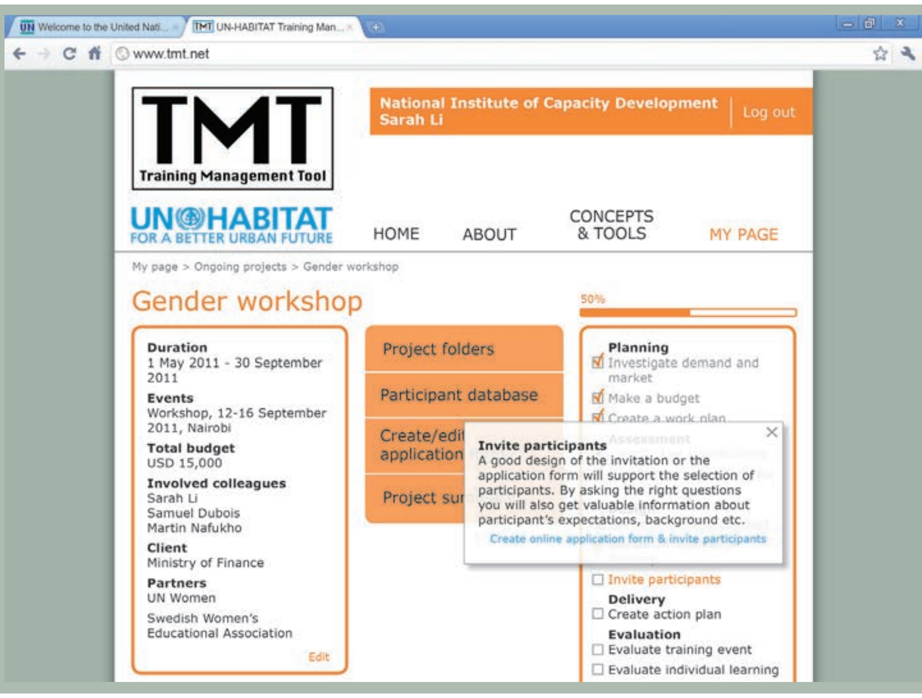


Figure 17: Project page and checklist.

Project checklist

A central function of the project page is the project checklist. The checklist is generated when the project is created and adapted by the user to the requirements and limitations of the project. A bar above the checklist visualises the progress of the project and completed steps are being check marked.

Most steps of the checklist are linked to related concepts, tools and inspiration of the "Concepts & tools" pages. When clicking on a step an information box with the basics of the steps appear and the links to support material are listed. Some of the steps are also linked to functions, for example is the step "Invite participants" linked to a page where an application form can be created and invitations sent.

The checklist can be downloaded as an excel file to support budgeting and ensure that all steps are budgeted for.

Reflection question

When a step is check marked a reflection question appears and the performance of the step can be rated and comments on what went well and not added. All responses are saved in a project summary that later can be used to support institutional learning.

Project folders

Every project has a set of project folders, one folder for each main step of the training process. New folders can be created and material can be uploaded to and downloaded from the folders, for all staff concerned to have access to the project documents. This supports coordination of projects as well as prevents the institute from losing valuable material when someone leaves.

Figure 18: Project folders .

In addition to internal sharing the folders can be shared with external staff, clients or participants by sending a link to the specific folder. In this way background material can be collected from different stakeholders, pre-event material can be distributed and post-event material shared. Material from all projects can also be accessed via a main folder on “My page”.

Online application form

To invite participants an online application form can be created and disseminated by email or a link on the institute’s website. One of the purposes of this function is to inspire the institutes to make use of the possibilities of the application process to select the participants with highest potential and get useful information about the organisations and participants before the training. The application form is created from a template where texts and types of questions can be changed for adaptation to each institute and project.

Another purpose is to make the administration of the application process more efficient by linking the form to a participant database where information is automatically updated when an application is filled in.

Participant database

The participant database organises the participants when they apply and participants can be manually edited, added or removed as well. Basic information about the clients, partners and participants are displayed in a table and the full applications can be viewed and downloaded by clicking on a participant’s name. Also the participant list with contact information can be downloaded, for example to be included in a report or to be handed out at an event. The project specific participant database is linked to a main database where all participants of an institute’s training programmes are listed.

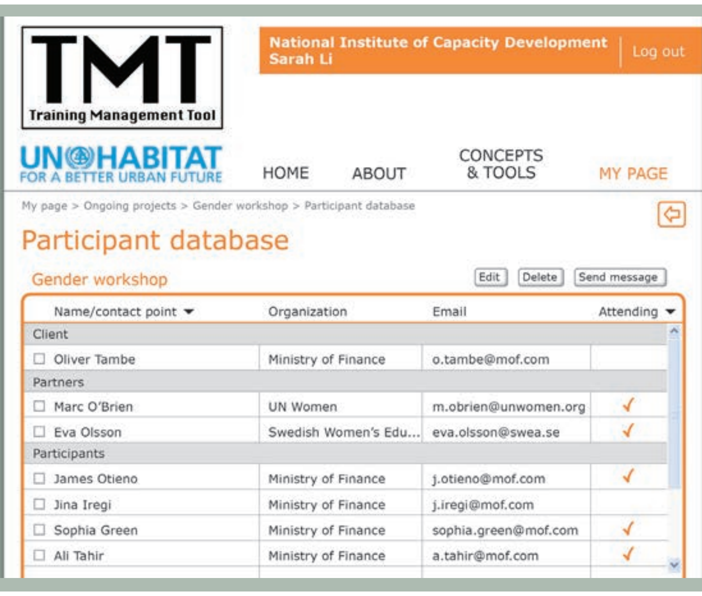


Figure 19: Participant database.

Communicate with all participants

Selected or all participants, clients and partners of the project can easily be reached with a "send message" function. The user writes the message and an email is sent to all the persons selected from the list of participants. Files can be attached to the message or a project folder chosen for sharing.

4.6.4. Mock-up

The mock-up created for the user tests focused on visualising the functions and creating a feeling of how it would be to interact with the tool in a general sense. Most functions described above were visualised in the mock-up or described during the tests, see the flowchart in Appendix VII for information on which functions were selected. A Power Point with interactive elements made the base of the interface and the users could click on some of the menus and buttons of the website. See Figure 20 for an example of the flow presented to the user when exploring the functions. To express straightforwardness a minimalist design was applied, however, it was at this stage of the project not prioritised to elaborate on the visual design or the details of the interface. In line with the UN-Habitat brand manual the font Verdana was used for the text elements.

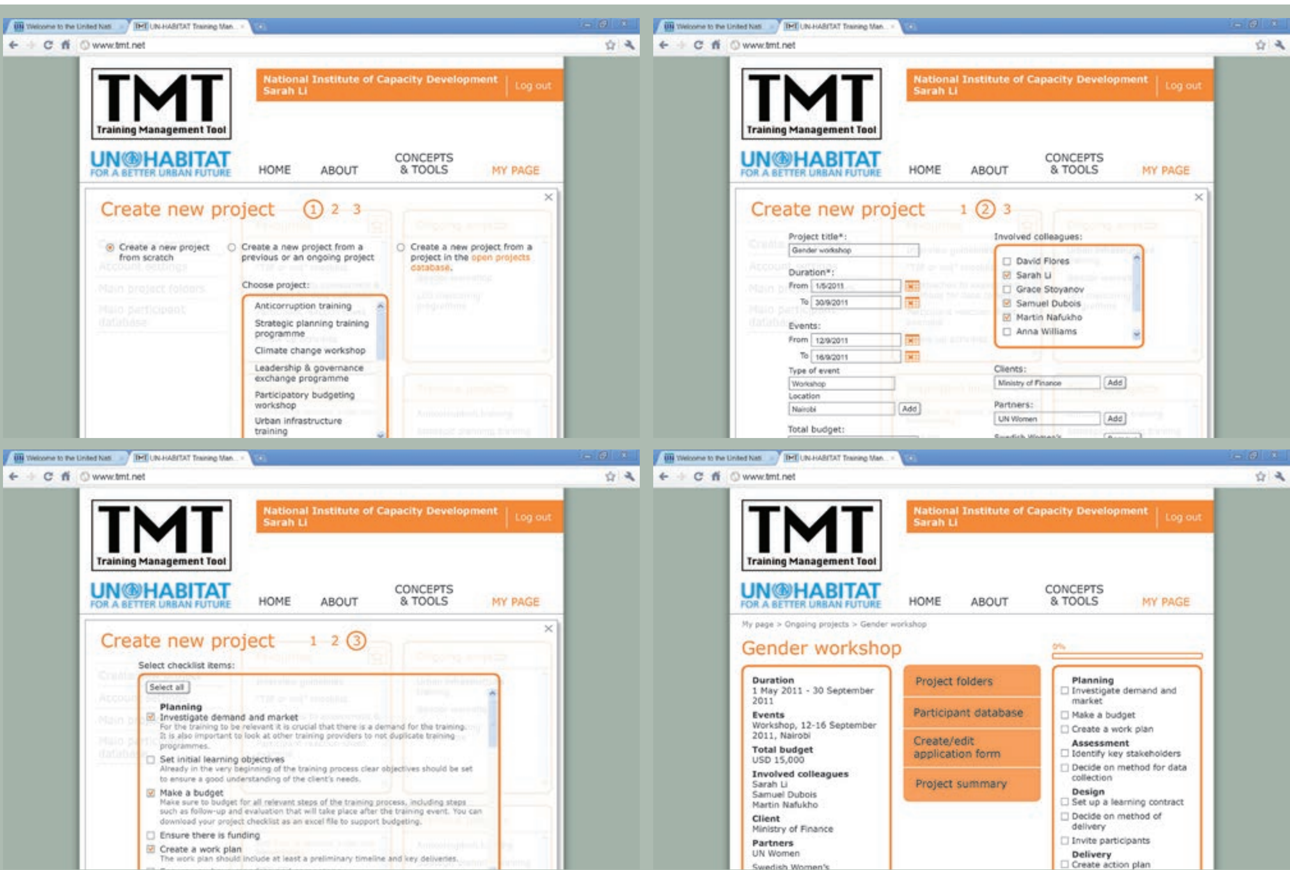


Figure 20: The steps of creating a new project.

4.7. User tests and evaluations

4.7.1. Feedback from training institutions

All three representatives from the training institutions who took part in the user tests saw a great potential for the tool to support the institute's work, although some issues that might threaten the usefulness were raised.

One of the issues with the tool is that to fully make use of it, it requires that the training participants have access to computers and Internet as well as have adequate skills to use it. Two of the institutes thought this would affect the usefulness of the project folders, the online application form and the "send message" function. The option of manually adding information to the participant database was pointed out as a good complement to the automated information linked to the application form.

The institute's own Internet connection was in one case mentioned as a potential risk, since it sometimes is cut off and the institute had once been disconnected for a week. Regarding the computer skills of the staff, all users said that they and their colleagues would be able to use the tool.

Another issue, brought up by all users, was the competitive aspect of sharing projects with other institutes. The institutes would like to select what material to share and which institutes can access it. Nevertheless, the general idea of sharing projects, and build on other institute's projects in their own work, was seen as valuable. One institute described it as an opportunity to become more international and learn from institutes from all over the world.

In the questionnaire that the users were given in the end of the test sessions most of the functions were rated as "would be very useful", see Appendix IV for the questionnaire. For an overview of the responses of the questionnaire, including one online response from a training institution not possible to meet with in person, see Table 5.

The checklist was one of the functions considered by all users as very useful. The adaptability was appreciated and it was described by one user as "guiding you to what is relevant". Another value the users pointed out was the possibility of accessing material when being out of the office, for example when travelling to conduct training events. One user said that the tool would be a great way of staying updated on the progress of parallel training programmes and the work of colleagues when being away.

Table 5: Results from questionnaire with users, with the responses translated into numerical values.

Function	User 1	User 2	User 3	User 4 (online)	Average value (function)
Theoretical content; concepts, tools and inspiration.	4	4	4	4	4
List of favourites	3	4	4	3	3.5
Inspiration list	4	4	4	4	4
Project checklist	4	4	4	4	4
Reflection question	4	4	4	4	4
Project folders	2	3	4	4	3.25
Online application form	2	4	4	4	3.5
Participant database	3	4	4	4	3.75
Communicate with all participants	4	4	4	4	4
Share projects/build on other institute's projects	3	4	4	4	3.75
Average value (user)	3.3	3.9	4	3.9	
	0 - Would not be useful 1 - Would probably not be useful 2 - Could be of some use 3 - Would be useful 4 - Would be very useful				

All the users said they would use the tool in their work if it was available today. They did not think that using the tool would add to their workload, rather the opposite. One user thought their work would be more efficient because of less paperwork, another because the tool would systematise the process of the institute, and a third because the facilitation of record keeping would prevent the institute from wasting time redoing things.

4.7.2. Feedback from training experts

The training experts the tool was discussed with had a wide range of comments and suggestions, from detailed remarks on theory to general suggestions on perspectives to take into account.

It was considered important to explain why UN-Habitat is providing this tool, the link between training for capacity development and urban development should be made clear to visitors of the website. The ownership of the tool, to what extent it should belong to the training institutions was also discussed. It might be valuable for the long-term development of the tool if training institutions could add to the theoretical content.

Regarding the checklist it was suggested that it might be useful for the institutes to have the possibility to not only select steps from the predefined list, but also add their own. Another specific suggestion was to include a possibility of receiving information about organisational needs, not only the individual, in the application form.

One training expert had ideas on more advanced forms of participant interaction than is included in the mock-up. The website could potentially be used to facilitate two-way communication between the institutes and the participants or discussions among the participants, for example as an extension of an event. However, the same person liked the simplicity of the tool, that it focuses on a few key functions, and said it might be better to link to other websites specialised in discussion forums.

The training experts, just as the training institutions, all thought it would be a useful tool for managing training programmes, and a product like this was said to be missing today. The tool was also seen by UN-Habitat as a possibility of bringing cutting edge theory on effective training to life and to support the training institutions in applying the theory in practice.

5. Discussion

5.1. Result

5.1.1. Efficiency as a means to effectiveness

The overall purpose of the project is to support training institutions in providing effective and relevant training programmes and according to the users the training management tool would be valuable to their work. However, the perceived values described by the users were mainly related to efficiency, although efficiency and effectiveness were seen as strongly linked.

Increased efficiency has not necessarily to be followed by increased effectiveness, but it definitely helps. If the user for example can save time and money when preparing training material there would potentially be more resources available for follow-up activities and evaluation. Provided that the post-event steps are included, and carried out properly, the training efficiency then affects the effectiveness. In addition, many functions of the tool, such as the checklist, the project folders and the application form, are supporting both efficiency and effectiveness. Although the online application form might be used mainly for the purpose of managing the participant information efficiently the template form includes elements supporting the quality of the application and participant selection process as well.

The objective of the tool to "*make training administration more efficient*" is also critical since it provides immediate benefits to the institutes. Without efficiency benefits the incentives for the users to incorporate the tool in their daily work would be weak, and the tool would most likely not be used long enough to have an effect on the quality and relevance of the training.

5.1.2. Functions for effectiveness

Since improved effectiveness is a long-term and much more abstract result compared to increased efficiency it is not unexpected that it was difficult for the users to describe why they thought the effectiveness would be improved. For example the checklist was appreciated, and seen as a function supporting effectiveness, but it was hard for the users to describe how they thought it would affect their work.

The checklist is a central function and it is related to many of the objectives regarding effectiveness. It "*provides the user with information relevant to each specific training programme, at the appropriate stage of the training process*" and to some extent "*encourages use of assessment and evaluation methods*". Together with many of the other functions it also "*supports practical applications of theory on effective and relevant training*". The two later objectives are in addition dependent on how relevant and easy-to-use the theory and tools developed by UN-Habitat are.

Another objective of the tool, linked to the effectiveness of the training in an even more long-term perspective, is to "*facilitate learning from the user's own experiences*". Contributing to the fulfilment of this is the checklist and related theory, as well as the reflection question. Since learning from previous experiences, and using that to improve future training, is a long-term process the tool would have to be used for a longer period of time before it affects the training effectiveness. As previously mentioned, the immediate efficiency benefits for the users is a key to long-term use. If the administration of projects is indeed facilitated by using the tool the users will probably continue using it.

5.1.3. Potential barriers

Even though both the individual functions of the tool and the tool as a whole received very positive feedback from training institutions and training experts, the study neither proves that the tool would be used nor that it would be used in such a way that it improves the effectiveness of the users' training programmes. Due to the conceptual character of the project only the users' opinions have been collected, and it has not been possible to study how they would actually use the tool. Despite good intentions old habits might be hard to change or undiscovered factors hinder usage. However, the very positive response and the high potential perceived by the users indicate that there is a need for this type of support and a willingness to try to incorporate the tool in the work of the training institutions.

Another potential barrier to the tool being used is the technical skills of the users. Although the users claimed that the institutes have adequate skills to use the tool it is hard to know from only trying the mock-up. The user-friendliness of the final tool would also depend on the quality of the interface design, which was not developed or tested in this project. However, with a careful design of the interface people who know how to use email and basic computer programs should be able to use also the training management tool. Regarding the computer skills, equipment and Internet access of the institutes' clients, which was a concern of the users, it can be assumed that it will all increase with time and consequently expand the usefulness and the potential areas of use of the tool.

5.1.4. The process and methods' impact on the result

For the positive feedback from the users to be valid, the mock-up and user tests must have provided enough information for the users to understand the functions and how they relate to the institute's work. During the user tests the understanding of the tool could be checked by asking the users to describe what value they thought the tool would bring, for what they would use the tool and what barriers they saw to using it. This was not possible to check with the institutes responding to the online questionnaire, but since the number of respondents was very low only a fraction of the total feedback came from the questionnaire.

Due to the wide geographical spread of training institutions only a few institutes were visited for user tests, all of them in Kenya. How the tool would work for other types of institutes is therefore not known and if UN-Habitat wishes to provide the tool to a more diverse group of institutes further testing is recommended. However, the tool is developed to meet with needs expressed by several different institutes during the expert group meeting and the basic functions could therefore be assumed to be relevant also to institutes outside Kenya.

The participants of the expert group meeting were among the stronger institutes in UN-Habitat's network, and the tool has been developed based on their needs and contexts. Consequently the tool might not be as useful for institutes with weaker internal structures or more limited resources. The need of support for training management is probably even greater among the weaker institutes but the tool has to be tested with them to see if it can be adapted to fit within their context.

In the process training experts from UN-Habitat have been involved in parts of the analysis and the concept generation as well as in providing information for the pre-study and the evaluation of the tool. They have during discussions spontaneously contributed with ideas on possible solutions but they have not been included in any structured ideation on functions for the tool. Involving more people, even though they do not have a background in developing this type of products, might have resulted in more initial ideas and in the end a better tool.

5.2. Lessons learnt

It has been very interesting to apply the design process on a project carried out in collaboration with an organisation that usually works rather differently. The importance of not from the very beginning decide on a final solution, but to trust that the process will eventually result in a solution fulfilling the purpose, had to be carefully explained since projects at UN-Habitat usually have pre-defined outputs.

One of the challenges of the project was to make the users share experiences on what they perceive as problems and what is not working well. In one extreme case the interviewee could not think of anything, regarding the work of the institute, that was problematic or could be improved. The unwillingness to admit that things are not perfect was also reflected in the training process visualisation sheets where only seven out of twelve institutes indicated a step to be of lower priority. To keep the discussion on a general level, discussing what challenges all institutes are facing, resulted in more information about problems, as did discussions on what external factors affect the institutes' work.

Being a representative of UN-Habitat was a good way of getting to speak to people, but it might also have contributed to the users hesitation to admit internal weaknesses. Since the users were mainly partners of UN-Habitat they were probably concerned about not making a good impression.

Despite the relatively formal context of the expert group meeting with training institutions, the training process visualisation went very well. The participants seemed to appreciate the creative task and most institutes made an effort filling in the sheet elaborately. Naturally no process was described as the other, and to analyse and compare the processes required a lot of time. An alternative would have been to ask the users to select from pre-defined steps, but in this case it was valuable to see how the users chose to describe the steps and what they found important enough to mention.

For the user tests it was a challenge to first of all make the users understand the functions and secondly to take the discussion beyond the initial, unreservedly positive reaction. A test session, including time for interview, of one hour felt fairly short and the 1.5-2 hour meetings resulted in more interesting feedback.

The time allocated for focus group discussions, 30 minutes per group, was too short for the users to elaborate on their thoughts, especially since they at the same time were having lunch. It still gave valuable information, such as concrete examples of what tools they currently use and what they think could be useful in the future, and it was a worthwhile group activity since it allowed the users to agree or disagree with each other and build upon previous comments. However, it would have been useful with more time for the focus group discussions, also to make the most out of the training process visualisations.

5.3. Recommendations for further development

In order to know how the tool would be used by the training institutions, a beta-version of the website has to be developed and tested for a longer period of time. Before developing the platform for the tool, the concept should be tested with more training institutes, perhaps also institutes considered to be less strong, if UN-Habitat wishes to broaden the target group.

The next step of development should be to carefully design the interface, in order to make it easy to use also for users with limited experience of computers and Internet. Elements to strengthen the desired visual expression could also be included.

Many decisions has to be made regarding how all the functions of the tool will work in detail. In particular the function of sharing projects between institutes has to be worked out, for the users to feel in control of what they are sharing and with whom.

When developing the platform not only the front end, the interface for the training institutions, should be planned but also the functions of the back end that UN-Habitat will interact with. If designed wisely the website can provide UN-Habitat with a useful database of training institutions as well as information on what they are working on and how they choose to carry out the training. However, the privacy of the users also has to be considered.

To guide and set the framework for the further development it is crucial for UN-Habitat to prioritise between functionality of the tool, cost and how much time can be allocated for development and maintenance. For example, from the user tests it is clear that support for record keeping of training material would be useful, but that might be to a high cost for UN-Habitat since it requires high server capacity. In the same way many other functions will be more useful the more time or money can be spent on their development or maintenance.

6. Conclusion

Both the training institutions and training experts in the study believe that the training management tool would be valuable to the work of the institutes. Support for structuring of the training process, coordination of staff members and prevention of unnecessary duplications of work were some of the benefits perceived by the users. Even though these benefits mainly are related to the efficiency of training management, rather than the quality of the training programmes, the training effectiveness is likely to be affected in the long term.

The tool has only been tested with a small number of institutes and further tests should be conducted to ensure that it is adapted also to institutes also outside Kenya. However, needs of a relatively diverse group of institutes were investigated and analysed during the user studies and the tool has been developed for a broader group of users than participated in the tests. A perspective that has not been considered, but might be interesting for the future, is that of less strong training institutions.

Since the tool has immediate benefits for the user, the incentives to use it should be strong, although this study can not prove that the tool would indeed be used. Nevertheless, the institutes in the study seem to have the equipment and skills to use the tool as well as a strong motivation to try to incorporate it in their work, which are prerequisites for the tool to have any chance of improving the institutes' training effectiveness.

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Appendices

Appendix I: Interview guidelines – user studies

Observations and interview. 1-2 hours at the training institution's office.

Kenya Institute of Administration (KIA)
www.kia.ac.ke
Established by Kenyan government in 1961. Mainly train public officers (senior managers) but also private sector and NGOs.

Association of Local Government Authorities of Kenya (ALGAK)
www.algak.or.ke
Non-profit umbrella organization for local authorities. Financed by support from "strategic partners", membership subscriptions and registration fees.

About the interviewee & institute

- » Title, background, job description.
- » Type of institute (private/public/mix).
- » Number of employees.
- » Organizational structure.
- » Business model.

Training management

Ask the user to describe (visualise) the institute's training process and how it is managed. Make sure the following is covered:

- » Typical setup.
  - o Type of training
  - o Topics
  - o Location
  - o Target groups
  - o Selection of participants
  - o Number of participants
- » Frequency of training interventions.
- » Responsibilities of different persons/units within the institute during the process.

- Preparations, assessment and pre-event activities.
- Use of tools or methods.
- Design of event.
- Post-event activities.
- Evaluation.

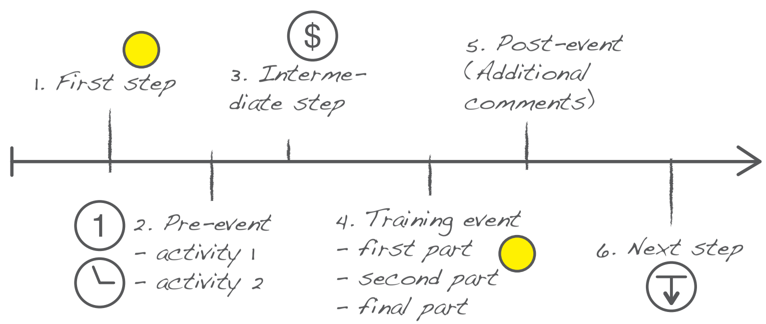
Reflections

- Examples of successful training. Why?
- Examples of when training did not meet with expectations. Why?
- How do you make sure that the training is relevant and up to date?
- How could training management be more efficient? More effective?
- What is working well and not in general in the training management process? Why? (Stickers)
- What is time consuming? What is costly? Why (e.g. complex or administrative)? (Stickers)
- What has high/low priority? Why? (Stickers)

Appendix II: Training process visualisation sheet

Training process

Describe, step by step, how the training process is managed by your institution by adding the steps to the timeline below. Think of aspects such as pre-event activities, training events, post-event activities, administration and responsibilities of different persons or units. There is a simplified example of what it might look like to the right. Indicate with the stickers, which can be found on the next page, what parts are of high and lower priority, what is time consuming and costly and what parts that currently work best. Feel free to make comments and clarifications as you like.



Name

Institution

Highest priority

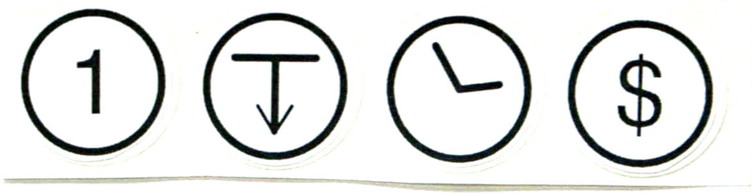
Lower priority, e.g. step that would be left out in case of time constraints.

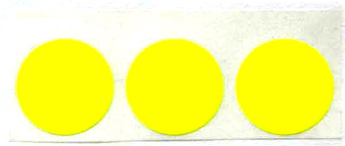
Time consuming

Costly

(yellow sticker)

Works well





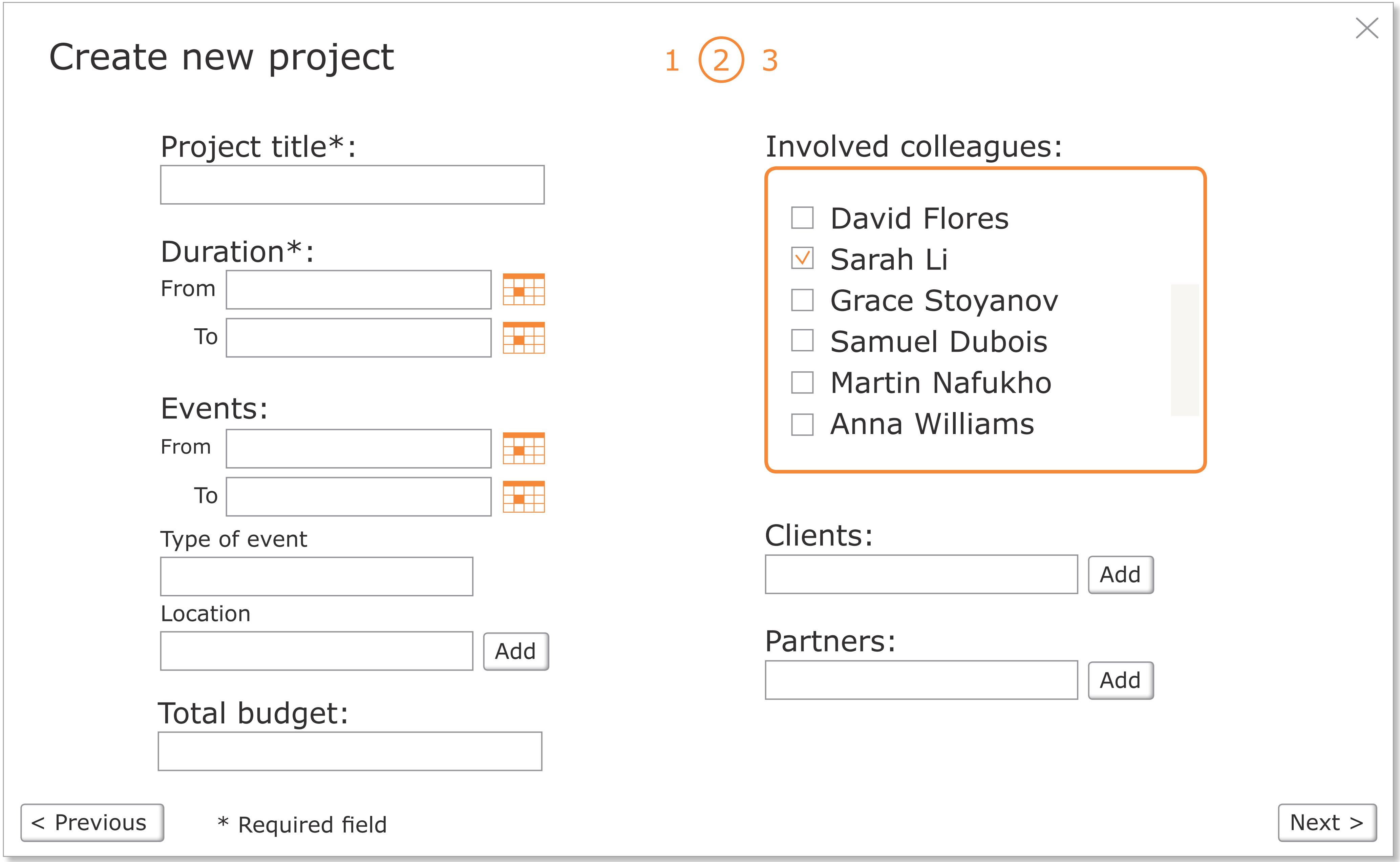
Appendix III: Tasks for user tests and support material

Instructions to user: A model to evaluate the functions of a website with a training management tool. To be used by different training providers but to be useful feedback from potential users is crucial. All comments important; if something is strange, confusing or good. Model with limited functionality, only click on buttons where the hand appears.

1. Begin at start page, user reads text.
2. Ask user to find information about the evaluation part of the training process. (Concepts & tools > Evaluation.)
3. Ask user to log in to access the personalised functions.
4. Explain features of "My page".
5. Ask user to create a new project (from scratch) and to have a recent project in mind for the following steps. User fills in general project info on paper form and chooses steps from a printed, complete, checklist.
6. Explain features of project page. Ask user to find out more about how to evaluate training events (via checklist) and to download the participant reaction sheet.
7. Ask user to go to project material folders and explain features, relate to project described by user. Give example of sharing material internally, with external staff and with participants/partners/clients.
8. Go to project page 50% completed and explain that this is what it will look like in the middle of the project.
9. Ask user to click on the next step in the checklist (invite participants) and create application form.
10. Explain features of application form and ask user to send invitations. Explain that a link to the form can be sent to people or put on a website for anyone to access.
11. Ask user to go to participant database. Explain that when people fill in the form the information will automatically be transferred to the table. Information previously added about clients and partners will already be there. Complete applications can be viewed or printed by clicking on participant. Participants can be removed or added and marked as "attending" when having confirmed.

12. Explain possibilities of communicating with all or selected participants/partners/clients. Ask user to send a message to everyone. Explain connection to project folders and that e.g. pre-workshop material can be shared this way.

13. Ask user to go back to project page and check mark the “invite participants” step. The step should be rated as having “some problems”. Explain that the rating and comments will be summarised and can support institutional learning.


Create new project
1 2 3
Project title*:
Duration*:
From
To
Events:
From
To
Type of event
Location
Add
Total budget:
Involved colleagues:
David Flores
Sarah Li
Grace Stoyanov
Samuel Dubois
Martin Nafukho
Anna Williams
Clients:
Add
Partners:
Add
< Previous
* Required field
Next >

Create new project 1 2 3

Select checklist items:

Select all

Planning

- [ ] Investigate demand and market
  For the training to be relevant it is crucial that there is a demand for the training. It is also important to look at other training providers to not duplicate training programmes.
- [ ] Set initial learning objectives
  Already in the very beginning of the training process clear objectives should be set to ensure a good understanding of the client's needs.
- [ ] Ensure you have mandate and competency
  If you do not have the mandate to carry out the training all further efforts will be in vain, therefore this is important to make clear as early as possible in the training process. Lack of internal competency can to some extent be compensated for by working with partners.
- [ ] Make a budget
  Make sure to budget for all relevant steps of the training process, including steps such as follow-up and evaluation that will take place after the training event. You can download your project checklist as an excel file to support budgeting.
- [ ] Ensure there is funding
- [ ] Create a work plan
  The work plan should include at least a preliminary timeline and key deliveries.
- [ ] Decide on focal point

Assessment

- [ ] Involve client and managers in assessment design
  For the training participants' learning to have an effect on the work place both the client and the managers have to support the training objectives. This is best done by involving them in the entire training process, including the needs assessment.
- [ ] Define target audience
- [ ] Identify key stakeholders
  Stakeholders are typically the client, beneficiaries of the services provided by the client and funding agencies. On the supply side the training institution and the trainers are the key stakeholders.
- [ ] Evaluate organizational readiness
  A number of factors affect the organizational readiness and if the timing for the needs assessment and training is not right, the assessment or training may not happen or may not be effective.
- [ ] Carry out initial problem analysis
  Scan the organizational and institutional context linked to the performance to identify critical problems and the roots of the problem.
- [ ] Decide on method for data collection
  There are many approaches and methods for data collection for needs assessment and which ones are more suitable depends on the scope of the assessment.
- [ ] Share assessment results with client
  To support a common understanding of the client's needs it is crucial to share the results of the assessment with the client.
- [ ] Consider if training is an appropriate approach
  To many problems or needs training is not the solution. Organizational problems are typically hard to solve with a training programme while needs on an individual level more often benefit from training. Go to theory on the limitations of training.
- [ ] Analyse factors affecting transfer of learning
  There are many factors either supporting or blocking the transfer of learning from training. Make sure you have identified both enhancers and barriers to be able to take them into consideration when designing and delivering the training.

Create new project 1 2 3

Select checklist items:

Select all

Design

☐ Further define learning objectives
Based on the results of the needs assessment the learning objectives should, together with the client, be further defined and put in the context of broader capacity development goals.

☐ Set up a learning contract
A learning contract is used to increase both the participants' and the managers' commitment to learning and make e.g. the learning objectives more explicit.

☐ Incorporate gender concerns into design

☐ Awareness of cultural context
For the training to be successful the training design as well as the training material has to be adapted to the local context.

☐ Decide on method of delivery
There are many, often more effective, alternatives to traditional "classroom training", such as exposure visits, mentoring programmes and participatory training.

☐ Prioritize between time, scope and cost

☐ Invite participants
A good design of the invitation or the application form will support the selection of participants. By asking the right questions you will also get valuable information about participant's expectations, background etc.

☐ Select participants
Participant selection is critical to the success of the training activity but is sometimes not in the hands of the training provider. Ideally the criteria for selection are set together with client.

☐ Involve key stakeholders in design
The client and managers, as well as other key stakeholders, should be involved in the training design to assure that the training is relevant and that the participant's will be encouraged to make use of what they have learnt.

☐ Design for participation

☐ Design the programme
The programme for the training event should include the different activities, duration, what material is needed and who is responsible for each activity.

☐ Decide on training environment
When deciding on the training environment consider what the implications on training design and logistics are.

☐ Build in follow-up activities
Follow-up activities are crucial for transfer of learning and can be as simple as a follow-up meeting or phone call or more extensive for a greater support.

☐ Check available resources for delivery
Do you have access to e.g. visual aids to support the training delivery?

☐ Consider need of partners
External partners can support both design and delivery of training when competency or credibility within the specific subject is not to be found internally. Consider pros and cons of using local resource people versus international experts.

Delivery

☐ Monitor and adjust training
No matter how well prepared the training is things might not turn out as expected. Monitor the activities carefully and adjust the training programme accordingly.

☐ Review participants' expectations and training objectives

☐ Ensure active participation

Create new project

1 2 3

Select checklist items:

Select all

- ☐ Check logistics
  Continuously check on the logistical arrangements in order to ensure that things are working smoothly and that the participants can focus on the training.
- ☐ Provide training and follow-up material
- ☐ Create action plan
  An action plan can be created by the participants in the end of the training to support the implementation of knowledge and skills when returning to the work place.
- ☐ Continuously document delivery
  Documentation of the training, in immediate connection to each activity, makes a good basis for project reporting as well as material for reflecting on what can be learnt from the event. Taking notes or photos and summaries made by participants are examples of quick ways of documenting activities.

Evaluation

- ☐ Link back to learning objectives
- ☐ Decide on level of evaluation
  To evaluate the training event and the individual learning of the participants is a rather straightforward activity compared to evaluating the impact of training on job performance and on human settlements. What level to evaluate has to be determined for each project, considering the costs and benefits.
- ☐ Decide on independence of evaluation
  Usually training events are evaluated by the trainer, but for more extensive evaluations it might be a good idea to increase the independence and have a less involved person to do the evaluation.
- ☐ Evaluate training event
  The first level of evaluation is to evaluate the event itself and the participants' immediate reactions. This is important since a negative participant reaction will hinder individual learning.
- ☐ Evaluate individual learning
  Individual learning is evaluated by measuring the changes in participants' skills, knowledge, attitudes or values after the training.
- ☐ Evaluate impact on job performance
  Increased skills and knowledge of training participants is no guarantee of the skills and knowledge being applied at the workplace. There are many barriers to transfer of learning to the organizational context and it is therefore in some cases valuable to evaluate the training's impact on job performance.
- ☐ Evaluate impact on human settlements
- ☐ Share evaluation results with client
  Results of the evaluation should be shared with the client for further feedback.

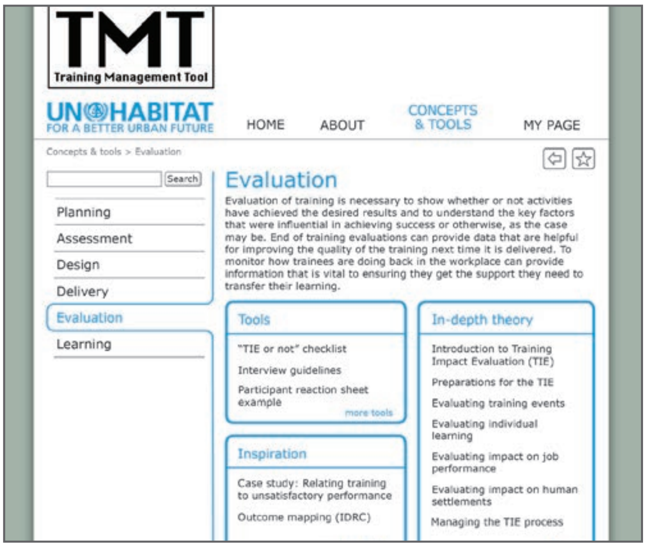
Learning

- ☐ Apply the action learning cycle tool
  The action learning cycle is a flexible tool that can be used for different types of needs, from simple reviews of short activities to deep analytical assessment of multi-dimensional activities.
- ☐ Discuss how to improve
  Discuss how to improve future training using the documentation of the event and activities, evaluation results and results from the action learning cycle.
- ☐ Document the organizational learning

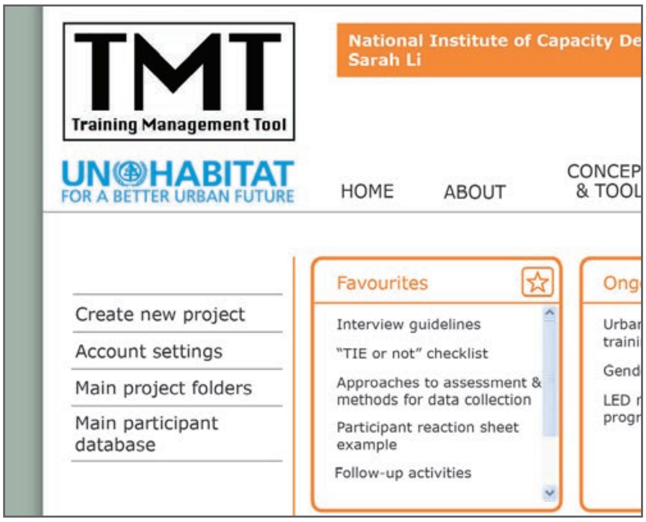
Appendix IV: Questionnaire – user tests

Functions of Training Management Tool

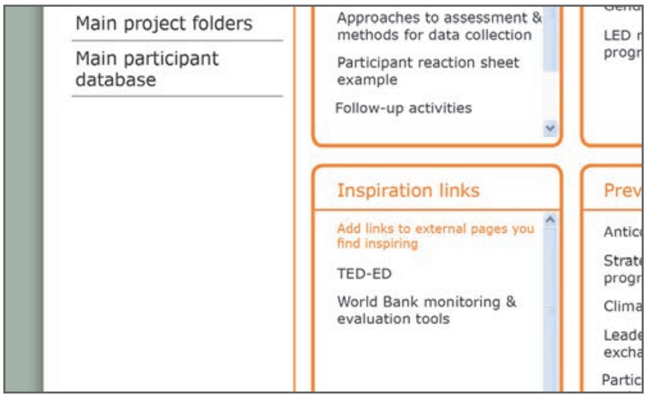
For each of the functions you have just tried, please indicate if they would be useful or not in the context of your institute.



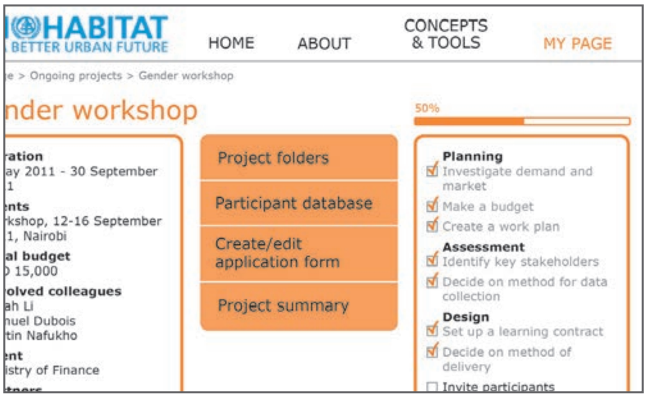
1. Theoretical content; concepts, tools and inspiration.
   - ☐ Would not be useful
   - ☐ Would probably not be useful
   - ☐ Could be of some use
   - ☐ Would be useful
   - ☐ Would be very useful



2. Personal list of favourites from concepts, tools and inspiration.
   - ☐ Would not be useful
   - ☐ Would probably not be useful
   - ☐ Could be of some use
   - ☐ Would be useful
   - ☐ Would be very useful

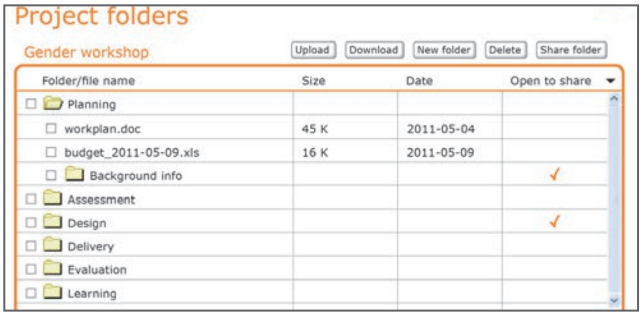


3. Possibility to create inspiration list with links to other webpages.
   - ☐ Would not be useful
   - ☐ Would probably not be useful
   - ☐ Could be of some use
   - ☐ Would be useful
   - ☐ Would be very useful



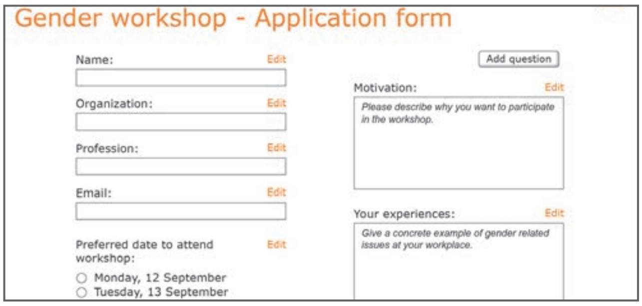
4. Project checklist directly linked to relevant theory and functions.
   - ☐ Would not be useful
   - ☐ Would probably not be useful
   - ☐ Could be of some use
   - ☐ Would be useful
   - ☐ Would be very useful

5. Share projects with other training providers or build on their projects.
   - ☐ Would not be useful
   - ☐ Would probably not be useful
   - ☐ Could be of some use
   - ☐ Would be useful
   - ☐ Would be very useful



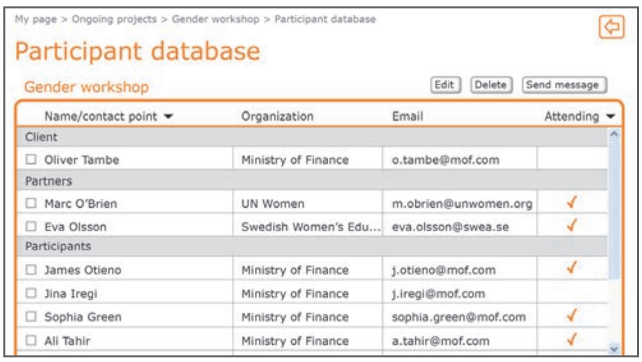
6. Project folders to share material internally or with external staff, participants, partners and clients.

☐ Would not be useful
☐ Would probably not be useful
☐ Could be of some use
☐ Would be useful
☐ Would be very useful



7. Create online application form and invite participants.

☐ Would not be useful
☐ Would probably not be useful
☐ Could be of some use
☐ Would be useful
☐ Would be very useful



8. Participant database with information about participants, clients and partners.

☐ Would not be useful
☐ Would probably not be useful
☐ Could be of some use
☐ Would be useful
☐ Would be very useful

9. Send message and link to project material to selected participants, clients and partners.

☐ Would not be useful
☐ Would probably not be useful
☐ Could be of some use
☐ Would be useful
☐ Would be very useful

10. "Reflection question" to rate performance of process step and summary to support institutional learning process.

☐ Would not be useful
☐ Would probably not be useful
☐ Could be of some use
☐ Would be useful
☐ Would be very useful

Appendix V: Interview questions – user tests

- Elaborate on the questionnaire answers: Why would or would not the functions be useful to your institute?
- Would sharing projects with other training institutes be useful? What type of content would you be willing to share? What content from others do you think would be useful for you to have access to?
- Would training administration be more efficient or would using the tool take time from other tasks?
- What barriers do you think there could be to using this tool?
- Do you think staff would be skilled enough to use it?
- Could the tool increase the quality of training?
- If you had access to this tool today, with the current functions and design, for what would you use it?

Appendix VI: Training processes summary

Process	Number of institutes (out of 12) including this step	Number of times* indicated as:				
		Highest priority	Lower priority	Time consuming	Costly	Works well
Identify market needs and target group/Scooping	10	6	2	1	2	6
Marketing to target group	2	1		1		
Select participants	2	2				2
Agreement with government/client	2					1
Prepare training material/Design training	12	1		5	4	5
Logistical arrangements/ invitations	3	1		2	1	3
Out source staff/ training of trainers	2			1		
Conducting event/ deliver training (including reaction evaluation)	12	3			5	7
Document event/ report	3		1			2
Analyse evaluation result	1					1
Post-event evaluation (organisational impact etc.)	10	1	2	2	3	2
Follow-up training	2		1			1
Review and update training	2		1			

*Each participant was provided with one sticker per category (highest priority, lower priority etc.) apart from "works well" where three stickers were provided. However, some participants did not use all their stickers or chose to copy the symbols to indicate that e.g. many steps are of highest priority. Therefore the sum of each column is not always equal to twelve.

Appendix VII: Flowchart with functions and structure of the tool

Functions flowchart