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URBAN AND ENVIRONMENTAL SERVICES PROJECT
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**METHODS OF URBAN PROJECT ASSESSMENT &
PLANNING. PROJECT ASSESSMENT WORKSHOPS**

SYNTHESIS OF THE TRAINING OF TRAINERS

Prepared For

**United States Agency for
International Development**
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The Office of Environment and Urban Programs

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1 The Assigned Objectives

ANHI and FEC are engaged in improving the environmental aspect of their projects within the framework of the HG004 program through the use of a new approach to studies and plans. This effort has been expressed by the establishment of environmental action plans, the application of the recommendations of the 1993 Programmatic Environmental Assessment (PEA) and by a willingness to apply both technical means and personnel to achievement of the environmental objectives. In particular, the two institutions have adopted the principle of carrying out preliminary evaluations of the general character of their projects and developing new approaches in environmental assessment and the planning of interventions. However, an assessment of the effectiveness of these approaches conducted during a previous mission in late 1996 recommended a follow-on training program development for ANHI and FEC staff.

The current mission initiated the follow-on program with the preparation, organization and conduct of a pilot workshop aimed at technical training in the environmental management of projects for the target audience: FEC, ANHI and partner organizations involved directly or indirectly with environmental protection projects. The mission was conducted as part of Functional Activity B.61: Methods of Urban Project Assessment and Planning. The activity aimed to assist with incorporation of environmental considerations in the decision-making process to contribute to an improved environmental regulatory, legal and policy framework. Intermediate Result 2.1 within the USAID Mission's Results Framework.

The intended output was training of personnel within the organizations to deal with environmental problems in the management of projects. These personnel should be able to master the planning and evaluation tools and introduce them into daily practice. They should therefore constitute a reservoir of know-how and qualified technicians who can transmit their knowledge and sensitize municipalities and other project partners.

In addition to presenting the one-day practical workshop, three days of initial training of trainers were planned for a smaller group drawn principally from the staff of ANHI and FEC who may be joined by one or two representatives from the target municipality and three or four other project partners from A&E firms, etc. The objective was to begin the development of a cadre of staff capable of passing on their understanding and skills to other staff and assisting with facilitation of the practical workshop and future similar workshops.

2 Selection of Participants¹

Criteria In light of acquaintances made during the first mission and the observations of the partners, the consultants proposed a list of names from the two institutions whom they felt could capitalize on the training experience and a list of other partner organizations capable of responding to the objectives of the workshop.

¹ Additional information is presented in companion document on this mission: A Manual for Undertaking a Project Assessment Workshop (Functional Activity B.61: Deliverable B)

Table 1 Participant Selection Form

ORGANIZATION	PARTICIPANT PROFILE	NUMBER EXPECTED	NAMES
ANHI	Project staff Project managers Technicians responsible for studies and implementation	4	
FEC	Staff responsible for project evaluation or for projects Technicians	3	
Ministry of the Environment	Staff pursuing general studies Observatory team members	1	
DE/DGCL	Staff responsible for solid or liquid waste	1	
Municipalities	Technical services staff Planning staff Contract technicians	2	

3 Advance Preparation²

At the outset the consultants worked on the preparation of the workshop in collaboration with the ANHI and FEC teams who were already sensitized to the environmental issues. This included the collection of necessary documents, development of a list of participants, definition of case studies for the exercises and carrying out of logistical arrangements for the workshop.

The case studies acquired during the first mission were examined and discussed with the staff of the FEC and ANHI to round out the contents of each case as necessary. The local consultant completed the investigations needed but found gaps in the available information. It also appeared that generating fictional project characteristics and factors to guarantee the comprehensiveness of an exercise was not as practical a solution as had been anticipated during the previous mission.

Prior to the start of the training of trainers sessions, the consultants met with the key ANHI participant (director of the new environmental cadre within ANHI) and the key FEC participant. During these meetings final touches were put to the sequence of activities during the three days. As Exhibit A shows, it was decided that the most effective way to instill and reinforce the desired mindset was to arrange each day in the same manner. It was therefore agreed that each day would begin with presentation of a case study by the international consultant, followed by discussion and completing the morning session, presentation of a local case study. Afternoons were to be devoted to practical exercises applying the lessons of the international case to the local case.

4 Activities During the Three Days

Orientation On the following day the consultants convened the groups of prospective trainers and the local consultant provided an introduction and orientation to

² Additional information is presented in a companion document on this mission: A Manual for Undertaking a Project Assessment Workshop (Functional Activity B.61, Deliverable B).

the objectives of the training days. He presented the background of the proposed training, including the findings of the earlier mission and explained that the three days would focus on training the team to become animators during the group exercises to be accomplished during the practical workshop.

The participants were asked to introduce themselves and to complete the participant profile form (see Annex A). The local consultant then presented the program for the three days (shown in Annex B), following which the two consultants handed out and described the objectives and a simple guide to site planning and design (see Annex C).

Presentations of International Cases The international consultant brought three case studies for presentation to the group. All were from California, which contains many regions with environmental similarities to parts of Morocco and environmental issues that are similar to, although often on a larger scale than, those faced by Morocco. Although the United States tends to offer negative as well as positive lessons for planners around the world, the State of California has tended to be on the cutting edge of the urban and environmental planning field in its generation of planning techniques and policies.

The cases selected involved new communities rather than redevelopment projects since it had been anticipated that the practical exercise for the workshop would involve a new development (Al Manai or Majane II). The three cases were: East Dublin, on a 7,500-acre site in multiple ownerships on the eastern edge of the San Francisco metropolitan area; Otay Ranch, a 23,000-acre property owned by a foundation ten miles east of the City of San Diego; and The Northern Sphere of the City of Palm Desert, a six-square-mile area also in multiple ownerships in the Coachella Desert of Southern California. Each is briefly described in Annex D.

The central objectives of presenting these case studies were to illustrate the principles stressed in the introductory presentation and set forth in the guide (Annex C):

- to communicate the benefits of early environmental assessment
- to illustrate the theory and practice of systematic and rigorous assessment and
- to illustrate how to respond to and make use of environmental constraints and opportunities and to use them to optimize the quality of the project by
 - assuring safety (from natural and man-made hazards),
 - reducing development and operating costs, and
 - increasing value through attention to comfort, convenience and visual quality.

In addition to these general messages, the cases illustrated:

- the importance of planning to take account of or in association with neighboring properties and land uses,
- the possibility that the existing urban and/or sewage master plans may need to be modified to respond to findings of an assessment of the environment of a specific site, and
- the need for a national and/or regional planning and environmental information base to guide urban master plans and provide a context for selecting appropriate development sites.

Each project was required to produce an overall land use plan known as a General Plan or more accurately an amendment of an existing general plan. Each was also to produce a Specific Plan for all or part of the site, laying out in detail the proposed site development and infrastructure. Finally, each set of plans was to be addressed by an Environmental Impact Report.

Each case illustrates how, by systematically studying and mapping every relevant aspect of the site and its surroundings at the outset, assumptions that had been made in the pre-existing general plans were altered. Sometimes these changes were modest but with significant improvement in the three key factors (i.e. increased safety, reduced development cost, and enhanced development value). In at least one case, Otay Ranch, the change was radical, more than doubling the population proposed under the existing plan, a significantly greater increase in development value due to the introduction of non-residential uses, and protection of the natural environment of two-thirds of the site.

Presentations of the Local Case Studies Each day a local case study was presented in the form of slides of the site and surroundings and a brief written description of the site, project objectives and program, and issues encountered.

The first case was Majane II in Meknes, a site where ANHI had incorporated protection of an ancient aqueduct into the project and left open a major talweg, constructing gabion walls to ensure adequate flood protection. The second was Al Manai in Marrakech, a site requiring the relocation of major sewers and offering opportunities for environmental enhancement and coordination of land and sanitation planning with adjacent public and private developers and the municipality. The last case to be presented was Sharij Gnaoua, a clandestine settlement improvement project in Fes. This project, which is now 80 percent complete, had involved expensive infrastructure construction, raising questions about whether more cost-effective solutions had been available.

Exercises Each afternoon began with an identification of site environmental conditions which could be constraints to or opportunities for different types of land use. After a coffee-break, these factors were then used to begin to identify uses suitable for roads, sewers, storm drainage, public facilities, and housing.

At the start of the first session, each participant was provided with a small copy of the base map on which to mark key features. Having become somewhat familiar with the site in this manner, a volunteer was sought to begin marking factors on a large-scale wall map as the other participants, working through the guide, called them out.

Typically, in California and elsewhere in the United States, environmental impact assessment tends to be conducted after the completion of a plan. This is a legacy of the fact that the seminal piece of environmental legislation, the National Environmental Policy Act (NEPA), was passed in 1969 in response to many visible examples of poor planning. The law was intended to avoid such mistakes but, by requiring, after the fact, review, has not been as successful as its drafters hoped. A law that required early review of environmental conditions and conceptual plans would doubtless have improved environmental quality at less cost. While not required by law, the benefits of such early assessment are becoming more widely understood, permitting preparation of plans that respond to the constraints and opportunities for development represented by the natural and man-made environment. In some cases, identification of alternatives at the preliminary plan stage may be necessary to determine the most cost-effective and least environmentally damaging scheme.

During the second session participants worked in pairs to prepare a preliminary outline plan which respected and made use of the critical environmental factors. At the end of the afternoon each version was presented and compared with the others in terms of commonality or differences of ideas.

The workshop ended with completion of the evaluation forms (see Annex F) and a round-table discussion on what each participant had learned.

Discussions and Recommendations During the course of the three days a distinct change in attitude towards the importance of environmental assessment was detectable. One participant on the first day described the rigour of the process demonstrated in the case studies as a luxury that a country such as Morocco could not afford. One or two others countered this comment by saying they understood that Morocco could not afford not to take such care in its project planning: environmental studies were essential to avoid later costs for infrastructure repairs, to avoid risks to public safety, and to increase the value of a project through, for example, planning to ensure that free or open space would become and remain usable green space. By the end of the three days there appeared to be unanimous support for the process and an understanding of its value, regardless of the proposed beneficiaries' income level.

Some of the participants noted that in many instances project planners already gather much of the required information. However, because the information is not used in a sufficiently systematic way, the desired results in terms of improved project quality may not be realized. It was recognized that what was being presented was a way of thinking, an instinctive approach to assessing, understanding and working with environmental factors. Participants learned that:

- It is not always necessary to undertake a comprehensive and detailed data gathering and analysis effort.
- It is necessary at the very least to run quickly through a list of factors in a logical sequence which is the same for all types and scales of project, in order to identify those that may need research or offer constraints or opportunities that could influence the plan.
- However, such a rapid assessment needs to be guided by experience in the application of environmental analysis in order to avoid being a mere mechanical exercise.

While the environmental issues and the manner in which they were treated were the principal focus of the international case studies, the institutional and governmental context of each one raised a number of questions and generated ideas. For example, interest was shown in the fact that the landowners in East Dublin were required to pay for the overall plan preparation. The manner in which state and local jurisdictions and agencies had worked together on the Otay Ranch Interjurisdictional Task Force was also a matter of interest in light of the reported difficulty of getting municipalities to work together in Morocco.

A number of comments made by participants have a bearing on agency and national policy. It was noted that the agencies have limited time and numbers of staff (24 in total at FEC) available to undertake environmental studies. Skills need to be developed in preparing terms of reference for and overseeing private architectural, engineering and planning contractors in bureau studies. ANHI, FEC and the ministries were seen as having a moral responsibility to sensitize the public and particularly municipal decision

makers to the needs and responsibilities for environmental protection and enhancement of environmental quality

Preparations for the Workshop On the afternoon of the third day the consultants held a discussion with the participants regarding the local case studies, seeking their views on the most effective case to be presented and made the subject of practical exercises at the principal workshop

As indicated above it had been anticipated that Al Manai would be the selection. However during the exercise on that project it became clear that for maximum integration of the twin peaks on the site the Monticules modification of the soon-to-be-adopted Municipal Master Plan would have been needed. Moreover the terrain is relatively flat and drainage is not well developed while man-made features are somewhat hard to become familiar with without a site visit. Most importantly no planning had been undertaken to address the need for treating the sewage which it is planned to intercept and divert in new collector sewer. All these factors reduced the pedagogical value of the project at least at an introductory workshop. (It appeared to the consultants that the project might well be suitable for a follow-on workshop once the most basic principles of site assessment and design had been internalized.)

An initial vote gave almost equal support for each of the three projects. However after discussion it was agreed that Sharij Gnaoua had the greatest pedagogical value being a site with much more pronounced relief for which a relatively comprehensive assessment of environmental constraints had been performed by ANHI's planning contractor.

5 Observations of the Participants

Expectations Like the background and experience of the participants expectations of the workshop ranged widely. One participant an architect admitted to having had no environmental background or experience and wished to improve his knowledge. At least one other participant had specialized training and experience in environmental planning and management. They wished to acquire new methodologies for project evaluation and integrating environmental considerations into projects and to meet other professionals in the field of environmental planning and management.

Workshop Evaluation All participants said that the objectives of the workshop were both clearly presented and achieved and that their own expectations were met or even exceeded. One participant said that the workshop gave him an understanding of how to detect environmental constraints and how to work with them in planning a project and finding adequate solutions. Most participants were familiar with environmental assessment concepts but said the systematic and consistent approach to analysis was new to them and to their organizations. However the participant stated that many of the concepts were new to him and he suspected they would be new even to his colleagues at the Ministry of the Environment.

Plans of Action Asked whether they would have the opportunity to use the concepts in their work all the participants answered positively. Asked how they would do so however several participants emphasized the need to sensitize the principals in their organization and to use the systematic analytical method to convince decision makers about the benefits of taking account of environmental factors.

Participants gave the following responses to the request to describe briefly their plans of action and how they planned to integrate what they had learned into their daily work

- Finalize checklist test the applicability of the material on the ground evaluate projects visit sites and discuss with municipal officials ”
- Conduct additional workshops in the regional offices of ANHI on projects in the course of study
- Introduce the systematic method of studies and environmental evaluation into project analysis
- As part of a team at the heart of the Ministry of the Environment my role is to take account of environmental factors, As a work plan I find the method that has been used here will be the best
- It is indispensable to apply environmental principles to ANHI projects to create a specialized structure that can integrate these principles into studies
- Sensitize our partners
- Respect the vulnerable points of a site protect against degradation and look at alternatives to reinforce protection

Each of the participants said they would be able to transmit what they had learned to other and one planned to make a presentation to his division

Additional Topics When asked if there were other concepts they would like to have had covered the following responses were given

- Deeper analysis of certain aspects (not enough time -- other workshops should be organized to cover them)
- Evaluation of landscape and elements that degrade or improve it cost-benefit analysis
- Methodologies for sectoral projects evaluated by FEC (sanitation abattoirs etc)
- More detail on international experience
- More practical exercises
- Site visits

One participant summed up the experience by saying that everything had been covered and that what was now needed was to apply the method in studies of environmental impact before the completion of projects

6 Trainer Observations

Evaluation of the Participants Participants were evaluated on the following factors using an ABC scale attendance participation discussion assiduousness contribution and overall evaluation and potential to become change agents (see Annex G)

- **Participation** Participation increased over the course of the three days so that even those who were quiet on the first day spoke up regularly on the second and third days Measures of participation included discussion, ideas and summing up of sessions As indicated above, good questions were asked in during discussions and in response to both the international and the local case study presentations

- **Comprehension** This was assessed in terms of assimilation of concepts, identification of constraint and opportunity factors and proposals for design and mitigation. With one exception, even the participants with limited background in planning appeared to grasp the concepts and to be able to apply them.
- **Assiduousness** The level of motivation among all the participants was high and reflected itself in the manner in which they dedicated themselves to the work at hand. Attendance was very good. Although two participants had to miss one half day each due to conflicting meetings, otherwise everyone arrived on time and stayed through the entire day.
- **Capacity to Synthesize** This measure, addressing the quality of reports, synthesizing presentations and discussions as well as of interventions in discussions and, indicated most clearly the inexperience of several of the participants and underscored the need for additional exposure and practice.
- **Teamwork** On this measure, the group performed particularly well, interacting with and supporting each other very effectively. This aspect of the training appears to have laid the foundation for the kind of cooperation among agency staff, including coordinated planning, policy making and sharing of information, that is essential for effective environmental management.
- **Overall Evaluation** In summary, four of the eleven participants, two from ANHI and two from FEC, received an overall evaluation of A while one from DEA/DGCL, received a B+. These five were judged to show strong potential to become change agents. These included the director of the environmental cadre at ANHI and an individual who has the potential to perform a similar role at the FEC.

Quality of the Participant Experience Judging by the participants' own evaluation and the observations of the consultants, it seems that the participant experience was of a high quality. The experience needs to be reinforced both through participation in workshops as animators and through practice with new and on-going projects. A further training should be planned around a real-time project, with more time, a larger space, larger maps, more complete information and a site visit.

Logistical Arrangements For the purposes of this initial training, the logistical arrangements were quite adequate. However, if a repeat were to be planned, a larger central surface for team work, possibly with a light table, would be desirable.

7 Synthesis of Lessons Learned

The evaluation of the competence and disposition of the participants and the plans expressed by them indicates that the training of trainers sessions produced a significant rise in awareness regarding the various aspects of the environment. A particularly significant and gratifying outcome of the session was the sense of teamwork and comradeship that developed among the ANHI, FEC, Ministry of the Interior and Ministry of the Environment participants. Not only was it evident that the group was operating as a team for purposes of the training but the participants all stated that they

recognized the value of this new way of working together and pledged to continue to do so

ANNEX A PARTICIPANT INFORMATION FORM

ANNEX B PROGRAM

ANNEX C GUIDE FOR PROJECT ENVIRONMENTAL EVALUATION

PRELIMINARY REQUIREMENTS -- Define project objectives

STEP 1 SITE SELECTION - For each alternative site, perform a rapid check of

General Location	PDM designation adjacent uses proximity to existing/planned employment sources transit transportation routes general availability of utilities and services
Physical Conditions	Presence of potential fatal flaws - unstable soils flood hazards toxic/hazardous materials valued/protected resources or endangered species habitat etc

STEP 2 SITE ASSESSMENT - For selected site, assemble, map and analyze data

Topography	Slope drainage channels elevation
Aspect exposure	Solar exposure views and vistas predominant wind direction &
Geology and Soils	Stability erodibility seismic response soil compaction / rippability bearing capacity cracks and faults permeability etc
Drainage	Surface streams stream corridors designated flood plains aquifers depth to water table water quality concerns
Vegetation habitat	Areas with rare plants or plant associations important as wildlife habitat
Existing Land Use	Agriculture forests commercially valuable minerals cultural sites protected area buffers other valued zones to be respected etc
Toxic Substances	Proximity of any toxic or potentially hazardous materials
Water Quality	Potential for project to result in water quality degradation
Air Quality housing	Proximity of any sources of air emissions incompatible with housing
Noise	Proximity of any sources of noise that might result in unacceptable interior or exterior noise levels in the project
Transportation	Capacity of access road(s) major streets and highway(s) parking areas transit service etc pedestrians and cycle paths
Utilities/ Infrastructure	Availability and capacity of water supply sewers wastewater treatment solid waste disposal/treatment power street lighting
Public Services & Amenities	Proximity of parks and open space for play active and passive recreation schools shops health and emergency services etc

Visual Quality	Views to and from site deserving protection
Cultural Features	On-site or nearby features requiring protection or suggesting incorporation into the project

STEP 3 PLANNING AND DESIGN

A Site Planning to Achieve Safety Objectives

- Avoid
 - Landslides
 - Seismic instability
 - Flood hazards
 - Toxic and hazardous materials
- Incorporate features to limit the effects of external hazardous/undesirable conditions

B Site Planning to Achieve Cost Objectives

- At a minimum observe identified cost ceiling
- Meet legal requirements for speed of approval
- Identify cost-effective multi-purpose ways to address environmental constraints

C Site Planning to Achieve Amenity (Value Enhancement) Objectives

- Create a sense of place and identity
 - Use constraints positively
 - Incorporate cultural features
 - Protect and incorporate views
- Make development comfortable - plan for
 - Maximum passive heating and cooling
 - Maximum wind protection
- Integrate the development with its surroundings and incorporate features to limit the project's adverse environmental effects
- Draw on solutions already available in historic patterns

FINAL CHECK

- Review for adherence to preliminary and interim reviews
- Final site plan grading plan
- Architectural plans
- Specifications

ANNEX D PARTICIPANT EVALUATION FORMS

ANNEX E TRAINER EVALUATION FORMS