



**Réseau Ouest et Centre Africain de Recherche en Education**  
**Educational Research Network for West And Central Africa**

**THE Dal FAP/GTTI PROJECT: A SUSTAINABLE BUILT ENVIRONMENT IN**  
**THE GAMBIA**

*ERNWACA'S report with reference to the March 2004 workshop*

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## **1. Introduction**

Given the expressed interest of this project in assessing changes in people's Knowledge/Skills that are considered important in the Planning of settlements, and in the Design and Construction of buildings (as a result of implementing the project in targeted communities in The Gambia), ERNWACA's task during the workshop centred on:

- (a) developing an appropriate "instrument" for measuring changes in the participants' Knowledge and Skills and, subsequently, on
- (b) a method for uncovering, qualitatively, behavioural changes among these communities.

In the event, it was decided that the "instrument" would take the form of a self-completion questionnaire; that is, the instrument would consist of a composite set of multiple-choice items which draw on existing Knowledge/Skills in the areas of Planning, Design and Construction (which together constitute the Domain of Architecture). Also, the questionnaire items would relate to six Topic Areas which had already been identified as being relevant to these three areas of the Domain. These Topic Areas were as follows:

- (a) the selection and approval of sites
- (b) the catchment, retrieval, storage, treatment and use of water
- (c) the use of non-renewable sources of energy and the use and renewal of renewable sources of energy
- (d) the use of non-renewable resources and/or materials and the use and renewal of renewable resources
- (e) the healthiness of indoor air
- (f) the history of settlement and building form.

The chosen method for the assessment of behavioural changes qualitatively was also pre-determined and was to be undertaken partly through the documentary study of community policies and regulations, community plans, government policy documents, sector studies, and planning studies.

## **1.1. The Self-completion Questionnaire**

The methodology for identifying the necessary knowledge that planners, designers and builders need (in order to act in an environmentally responsible manner), had been described in considerable detail by Professor Tom Emodi. The various steps of the methodology were therefore duly followed by each of the six Workshop Groups as its members determined “The top criterion” for each Topic Area (within each Domain Area) and generated relevant multiple-choice items for the self-completion questionnaire. That said, ERNWACA’s concern was that when developing a measuring instrument, the Validity of the instrument and its Reliability should be given due consideration.

### ***1.1.1 Validity and Reliability issues***

Taking these in turn, arguably, the fact that the Criteria for the Topic Areas had originated from the *Leadership in Energy and Environmental Design (LEED)* framework in North America clearly gives legitimacy to the curriculum developers’ claim that the content of the questionnaire is indeed valid. However, from ERNWACA’s perspective, it was also necessary to ensure that the proposed questionnaire was not only valid in those terms (that is, in terms of “*Content Validity*”), but also in the sense that the items were grounded in the realities of life in urban and rural Gambia. In other words, “*Ecological validity*” was an imperative. Consequently, as the six Facilitators for the workshop were Gambian nationals and/or were resident in The Gambia, they were assembled soon after the six *Workshop Groups* had ranked the criteria (for each Topic Area) and identified those ranked top. Then, together with a Resource Person and the ERNWACA’s Scientific Adviser, the Facilitators devised a number of multiple-choice items that related to the criteria that had been ranked top. Each “Facilitator” concentrated on the particular Topic Area with which he was most familiar, and paid due attention to generating effective “distractors” for each multiple-choice item that he produced (as required by this method of item construction).

Turning next to the “Reliability” of the proposed “instrument”, the position that was taken was firstly to attempt to minimize the likelihood that the Workshop participants

who would be completing the questionnaire would give wrong responses, simply because of a lack of clarity in the wording of the items. For this reason, in addition to spending a lot of time on ensuring that the wording of **each** item was as clear and unambiguous as possible, the Facilitators circulated **each** questionnaire item among themselves so that they could verify the clarity of each other's items. They also passed on their items to the Resource Person and to ERNWACA's Scientific Adviser for further scrutiny of the items. Finally, the items were submitted to the Workshop leader for further verification and for redrafting, if necessary. The outcome of this whole process was a 27- item questionnaire.

This approach to Reliability had involved a good deal of time and judgment, and was at first thought to be as much as could be expected in the circumstances, even if it cut against the dominant trend in educational measurement to determine the reliability of an item statistically. This position was particularly understandable, given that the statistical, "test-retest" method for determining reliability (in the sense of consistency of responses over time) is not applicable in this project, because its aim is to measure the expected change/improvement in test scores at the end of a module or programme of study.

However, taking the issue of Reliability of an item further, there remained the question of the internal consistency of the questionnaire, that is, the extent to which the workshop participants' Responses over the whole questionnaire were statistically consistent with their responses for the item. As it turned out, an estimate of the Reliability of each item in this sense of the term was possible because an appropriate computer programme for determining item reliability in this sense of the term was available locally at the office of the West African Examinations Council and was therefore used for the purpose.

### ***1.1.2. Item Analysis***

Yet another consideration was that in educational measurement, the value of a questionnaire item has traditionally been judged by:-

- (a) its **Difficulty Level/Facility Value (FV)**. This is the proportion of respondents (for the item) who get the item right.
- (b) its **Discrimination Index (DI)**. This is the difference between the proportion of the “Top” scorers (over the whole questionnaire) who get the item right and the proportion of the “Bottom” scorers who also get the item right.

It is commonplace that items/questions that are too easy (that is, that have an FV greater than 60%) or too difficult (that is, that have an FV less than 40%) and /or that do not discriminate sufficiently (that is, that have a DI less than .15), are scrapped. However, to reiterate an important point made above, the concern in this project was to measure change. Consequently, the thinking was that whilst the questionnaire items that were too easy would be jettisoned, as there was not much room for shown improvement in terms of higher item scores, those that were too difficult would nonetheless be retained, as the expectation was that the participants’ Knowledge/Skills would have improved (by the end of their module/programme of study) and the difficult items would register this improvement.

## **1.2 The Documentary Study**

ERNWACA’s approach to the *Documentary Study* was to try and include in the study some elements of *Discourse Analysis*. The term “Discourse” refers ordinarily to both written and verbal statements but because of the time constraints on the present project, the analysis focused, as requested, on the written statements in community policies, regulations and plans, government policy documents, sector studies and planning studies.

The analysis involved: -

- (a) finding out about the public and institutional discourses, in terms of the knowledge of what is seen as right or wrong in the Gambian context
- (b) finding out the kinds of documents & texts where the discourses appear
- (c) identifying the authors of the discourses and whom they represent

- (d) identifying the intended audiences

The aim of the analysis was to uncover:-

- (a) (i) what is seen as problematic (for example, what is right or wrong in the local context)
  - (ii) what explanations are given for the perceived problems
  - (iii) what is seen as the solutions to the problems
- (b) (i) what is not seen as problematic
  - (ii) what explanations are rejected or omitted for the perceived problems
  - (iii) which solutions are not preferred

The intention was that the analysis would, whenever possible, look at:-

- (a) the alternative discourses
- (b) the resistance to discussions/negotiations about the dominant discourse
- (c) the relationship between the discourses and social control and authority, locally
- (d) the pervasiveness or otherwise of the dominant discourse

## **2. The results of the Item analysis**

Forty-two (37 Male, 5 Female) participants who attended the March 2004 Workshop completed the 27-item questionnaire, in a large hall, at GTTI, on the last but one day of the Workshop. The event came to be known as the “*Beginning Knowledge Exercise*”. As already indicated, the item analysis was undertaken by WAEC. An outcome of this analysis was that seven of the items were discarded on the grounds that they did not stand up to the requirement for internal consistency and/or did not discriminate sufficiently between the more knowledgeable and the less knowledgeable among the participants.

The salient features of the results were that:-

- (a) nine of the twelve items about *Planning* proved to be so difficult that no one got them right.
- (b) only one of the four items about the selection and approvability of *Sites* was worthy of retention in the questionnaire.

- (c) only one of the 27 items had presented little difficulty to the respondents (with 76% of them deciding for that item that the *least important* factor during construction was the signs on the site ‘to advertise the contractor’)

Table 1 below shows the questionnaire items that have been provisionally retained for the proposed “Pre-test” at the June 2003 Workshop. However, it is strongly recommended that another meeting of the Facilitators with Professor Emodi be held well in advance of the starting date for the Workshop, so that more time can be profitably spent on reviewing and improving further the retained items and on developing other items, specially for the topic *Site*.

Appendix 1 gives the results of the item analysis.

**Table 1: The retained questionnaire items by Domain Area and Topic Area.**

Topic Areas	Domain Areas		
	Planning	Design	Construction
Site	1	<u>Nil</u>	<u>Nil</u>
Water	1 and 2	2	1
Energy	1 and 2	1	1
Resources	1 and 2	1	1
Health	1	1	1
History	1 and 2	<u>Nil</u>	1

*[Note: the numbers in the table refer to those used in the “ Beginning Knowledge Exercise” document]*

### 3. Preliminary findings from the Documentary Study.

ERNWACA's approach to the documentary study has been to collect appropriate relevant documents from key informants during visits to the relevant Departments of State and to the targeted communities at Brikama and Janjanbureh, respectively. So far, the relevant documents made available to ERNWACA for the purposes of this project, are those of the Government of The Gambia and as such reflect its public discourse. The documents were as follows:-

- (a) Republic of The Gambia (2002) *The Local Government Act, 2002*. Banjul
- (b) Department of State for Local Government and Lands (2003) *Empowerment. Decentralisation. Local Government Reform*. Republic of The Gambia. Banjul
- (c) Department of Physical Planning (1989 a) *Urban Development Planning Project. Land use Plan. Basse*. Ministry for Local Government and Lands. Republic of The Gambia. Banjul.
- (d) Department of Physical Planning (1989b) *Urban Development Planning Project. Land use Plan. Farafenni*. Ministry for Local Government and Lands. Republic of The Gambia. Banjul.
- (e) Ministry for Local Government and Lands (1995):-
  - 1. *New Laws on Physical Planning, Development Control, Land Administration and Surveying.*
  - 2. *Physical Planning and I*
  - 3. *How to get a plot of land*
  - 4. *How to lease my land*
  - 5. *Before you start Development in your plot.*
- (f) The Government of The Gambia (1996) *Construction Industry Development study. Final Report*. Banjul

The documents were mostly concerned with **Planning** and with **Construction**

### ***3.1. Physical Planning***

It transpired from this initial study of these key documents that they encompass the ideas, statements, and knowledge that are dominant among policy-makers/ Central Government and that much of the discourse in these documents is about the empowerment of local communities. Importantly, at the level of discourse, there has been a significant departure from the traditional “*Top Down*” approach to Planning (with minimum allowance for community involvement) to a “*Bottom up*” approach which involves communities meaningfully in the articulation of their needs and priorities; and, presumably, this new approach assumes that the communities’ vision of their priorities is not blurred by the contents of their traditions.

The formulation of decentralized plans is now said to be “resolutely consultative” (DoSLGL, 2003). It is initiated at the village level through Village Development Committees (VDCs), and at the Ward level through the Ward Development Committees (WDCs), so as to capture the essence of the communities’ requirements. In point of fact, the Local Government Act 2002 [Section 90 (1)] places massive responsibility on every Local Government Council. Under the Act, each Council “shall be the Planning Authority for its area” and may plan and implement any program or project for developing the infrastructure, improving social services and developing human and financial resources. The Act gives some insight too on the continuing role of Central Government in the process of decentralisation. For example, under Section 91 of the Act, Central Government technical departments, operating within the jurisdiction of every Council, will be expected to “support the development process of the Council through extension workers operating at Ward and Village levels”.

Arguably though, the discourse about empowering the communities politically was emerging even earlier from within Central Government, if one is to judge from the pattern of communication of the Department of Physical Planning (1989b) and that of the Ministry of Local Government and Lands (1995), as shown in the use they made of the media and, indeed, in the very language used in their interactions with the communities, for example, through their publicity leaflets.

Be this as it may, the fact is that the implementation of the comprehensive, genuine Decentralised Planning System mentioned in the 2002 Act was seen by the present Central Government as problematic without the instalment of elected Local Government Politicians and the reconstitution of the Local Government Authorities after the Local Government elections of 2002 (DoSLGL, 2003); and consequently, there has been some loss of momentum in the drive towards Decentralisation. However, during our recent visits, there was evidence of an impetus to implement the provisions of the Act. It seems that the connection between the exercise of political power by the Local Government Councils and the discourse of Central Government was being forged in practice, though not without some tension. The two Case Studies in Appendix 2 are pointers to the way that tension can indeed arise sometimes.

### ***3.2 Construction***

It was clear from the documentary study, that the pervasive discourse in Central Government was that an efficient and well organized Construction industry is an essential part of the country's development and that the industry's aim is to provide a full range of professional services of the required standard (Government of The Gambia, 1996). Interestingly, much earlier than the present Central Government's commitment to the sort of Public-Private Partnership outlined in **Vision 2020**, the former Government of the Gambia had in the 1980s outlined a strategy for developing the capacity of the industry. This development was to be achieved through improved training and through the transfer of work to the

private sector; as the industry was dominated by an externally funded public sector, and indeed, there had been some success with the transfer of most building works to the private sector. Nevertheless, in the 1990s the industry was facing a number of problems that were related to two categories of issues, namely:

- (a) economy-wide issues (the market size and the access to financial services), and
- (b) internal industry issues (the structure of the industry, the training procurement procedures, and the image of the industry)

The Central Government's approach to addressing these problems was to commission two UK based private Consultancy firms (in 1995) to undertake a study of the Construction Industry and to put forward recommendations to help the industry expand its capacity. These were grouped under five major objectives. Three of these were particularly interesting. They were respectively:-

- (a) "getting the industry organized" (with the formation of relevant professional associations and the improvement of Labour Market Information)
- (b) "setting standards and delivering quality" (through a review of the Department of Physical Planning and Development Control by a public sector task force).
- (c) improving skills and technical base"

What is striking is that, although the professional associations may be expected to play a key role in the development of the industry, Central Government is where power really lies; that is, the consultants' view was that whilst the industry had to help itself, Central Government had "to provide an enabling framework". Thus it was that the *Gamworks Agency* was established by Central Government with World Bank funding. It is the agency responsible for implementing the various components of the *Public Works Capacity Building Project*. The project aims at undertaking essential infrastructure maintenance works and at the same time building local capacity to identify and deliver construction projects.

**APPENDIX 1: the results of the Item Analysis**

<b>Domain Area</b>	<b>Topic Area</b>	<b>Item Number (in the Beginning Knowledge Exercise)</b>	<b>Facility Value (Proportion of correct responses)</b>	<b>Discrimination Index</b>	<b>Reliability (Internal consistency)</b>
Planning	Site	1	.00	.00	-
	“	2	.00	.00	-
	Water	1	.00	.00	-
	“	2	.00	.00	-
	Energy	1	.00	.00	-
	“	2	.00	.00	-
	Resources	1	.00	.00	-
	“	2	.00	.00	-
	Health	1	.00	.00	-
	“	2	.45	.20	.02
	History	1	.33	.49	.50
	“	2	.17	.38	.54
Design	Site	1	.43	-.04	-.00
	Water	1	.31	.18	.10
	“	2	.17	.31	.47
	Energy	1	.14	.36	.58
	“	2	.02	-.05	-.08
	Resources	1	.12	.09	.09
	“	2	.31	.37	.50
	Health History	1 1	.57 .10	.31 -.03	.32 .05
Construction	Site	1	.05	-.10	.24
	Water	1	.55	.14	.22
	Energy	1	.14	.19	.28
	Resources	1	.12	.24	.34
	Health	1	.76	.28	.30
	History	1	.21	.19	.27

## APPENDIX 2

### TWO CASE STUDIES OF THE PHYSICAL PLANNING PROCESS IN THE GAMBIA

#### 1. The change of direction of the Kotu stream

##### Background information

The Kotu stream is in the Kanifing Municipal Council Area and it is approximately 15 km from the capital city, Banjul. It is a natural water course (of 8 km long) which normally collects rain from the North of the Nemaunku settlement and discharges the water into the Atlantic ocean.

For the past decade, this stream has experienced a lot of encroachments (on its journey to the ocean) in the form of structural buildings and waste disposal grounds which have caused serious blockage to the natural water flow. The Ministry of Local Government and Lands and , in collaboration with the Department of Physical Planning and Housing, found it necessary to carryout a Planning study of the entire stream.

##### The Planning study

A comprehensive survey of the stream was conducted by the staff of the Department of Physical Planning and Housing. The survey revealed the following illegal developments within the area:

<b>The illegal developments</b>	<b>Number of developments</b>
(a) Developed and inhabited structures	125
(b) Cement block fenced properties	75
(c) Agricultural gardens	4
(d) Garbage disposal sites	5

The recommendations for the study were that all illegal activities within the stream should be removed or demolished and that a comprehensive design should be prepared.

As a result of these recommendations, two alternative designs were prepared: the first comprised an open concrete channel of 5m wide with 5 metres access on either side, while the second was an open earth drain.

An Impact Assessment was conducted to determine which of these two alternatives should be considered for adoption. The Impact study recommended the open concrete channel in that it will convey water more effectively than the open earth drain.

## **Conclusion**

The Impact Assessment ended with the recommendation that the site should be demarcated immediately with beacon pillars and that affected owners should be given one month notice to vacate the area.

The Planning Study recommended that the affected properties should be re-housed in the new Brusubi Housing Estate.

## **2. The Old Jeshwang-Abuko bypass road**

The Land Use Plan (of year 2000) for the Greater Banjul Area Physical Development had proposed among other things a bypass road to run from behind “Old Jeshwang” and stretch to the Abuko village. The existing road stretches from Stink Corner and passes behind Old Jeshwang, New Jeshwang, Ebo Town, Tallinding Kunjang, Latrikunda, Faji Kunda and Aboku village, respectively. One of the reasons for the proposed bypass road was to provide an alternative, diverted, route from Stink Corner to Aboku and beyond, because of the high volume of traffic and of the congestion anticipated in and around Serekunda beyond the year 2000. Another reason was that the proposed road would serve as a buffer zone between the existing settlement and the agricultural and

swamp areas on the east, and would also limit settlement in that place. In this way, the fragile agricultural and swamp areas would be preserved and would be protected from encroachments by the rapid, urban sprawl, experienced in the Kanifing Municipality area.

As a matter of fact, before 1998, a study was conducted to determine the extent of the residential encroachment in the area. It was observed that a large area of the agricultural and swamp lands (as per the Land Use Plan of year 2000) had intensive residential developments. Nonetheless, towards the far east and around the swamp areas, only sporadic developments existed, compared to those developments in the areas near the old settlements. The study recommended the shift and realignment of the proposed bypass road eastward, to the less densely developed areas in the agricultural and swamp areas.

So, in 1998 a Working Group was formed in the Department of Physical Planning to prepare a final plan for the new residential extensions and the new road alignment. A Task Force was formed with the involvement of representatives of major stakeholders (such as the Police, the Department of Technical Services and the Kanifing Municipality Council) and it undertook the preparation of the plan. The road alignment was subsequently demarcated from Old Jeshwang to Aboku according to the existing possibilities on the ground and in order to avoid as many structures and properties as possible. As a follow up, surveys were conducted to pick up details of the structures and properties affected by the new developments. The demarcation line was to serve as a limit to settlements and to be the edge of the road reserve as well. The proposed road was to be located between the boundary line and the swamps, thereby causing minimal destructions to existing properties. During the whole process, STOP notices and eviction notices were served. However, later on, the Department of State for Local Government and Lands instructed the Department of Physical Planning to halt the exercise until further notice; and since then, no action has been taken as no green light has been received from the Department of State, even though the importance of the bypass is paramount.