

**Trip Report  
Principles of  
Integrating Specific  
Subject Matter into  
The Formal School Program**

**June 27- July 10**

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**Summary Report**  
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**I- Background**

One of the major mandates of the Water efficiency and Public Information for Action project (WEPIA) is to work with school-aged children both in school and out to make them aware of the critical nature of water issues in Jordan. A component of this mandate is to integrate water issues and concerns into the larger curriculum for grades 7,8, and 9.

WEPIA has subcontracted with the Royal Society for the Conservation of Nature (RSCN) to work with the MOE and integrate water conservation issues into the curriculum. The start-up of the integration process has been facing a major constraint and a technical need.

The constraint is related to launching the work with the MOE. The meetings that both WEPIA and RSCN had with the Curriculum Development MOE staff resulted in an operationally complicated situation. Even though the MOE staff continue to express their willingness to cooperate with WEPIA and RSCN, on integrating water conservation materials into the curriculum, a condition has been clearly stated that they can not cooperate except after regular official hours and for that they need to be paid. This situation delayed the possibility of working on this important WEPIA component, and as a result might have an impact on WEPIA's anticipated results and targets in one of its goals, specifically the availability of the water education curricula and the training of 1,000 teachers in the new Curriculum.

The technical need is based on the fact that even though the RSCN staff has extensive experience in nature conservation and possibly in water conservation, they do not have formal school experience or curriculum development experience. One newly hired staff (hired

focused on its education component. The scope of work of the Consultancy states that the objective of the visit is to provide, specifically to RSCN and to others, technical assistance in the principles of integrating specific subject matter into the formal school program. In addition, WEPIA was hoping that some political pressure would be created as a result of this visit that might trigger a solution to the persisting constraint mentioned earlier.

## **II- Collecting and Verifying Relevant Information**

The consultancy started with a series of meetings to get to know WEPIA and its major counterparts and to discuss with them the importance of integrating new materials about water conservation into the curriculum. In addition to several meetings with WEPIA, the other meetings were with:

- The Minister of Water and Irrigation;
- The Secretary General of the Ministry of Education, the Director of the Curriculum department and two other staff from the Curriculum unit;
- The President of the Board of Directors, the Director, the Deputy Director of the Royal Society for the Conservation of Nature, and the six staff of the educational awareness unit;
- The President of the National Center for Human Resources Development.
- The Deputy Dean of the Faculty of Education at the University of Jordan.
- The Technical Assistant of the Jordan Environment Society; and Several representatives of the Media.

The meetings resulted in a better understanding capabilities and constraints and of what could be done in a realistic way regarding integration of materials into the curriculum within the time left for the WVEPIA project.

### **III- ACTIVITIES DURING THE CONSULTANCY**

#### **A- Two Workshops and One Lecture**

##### **1- The First Workshop:**

The series of meetings with the educational awareness team at the Royal Society were tailor made to be delivered as training sessions with the objective of strengthening the capacity of the six members of the team in curriculum methodologies. The training focused on the why (causality) and how (methodologies) of integrating new materials into the curriculum.

##### **2- The Second Workshop:**

In addition, a two-day workshop on “**The Principles of Integrating New Materials into a Curriculum**” was designed and delivered. 38 individuals participated. They represented the MOE; Ministry of Water and Irrigation (MOWI); WEPIA; RSCN; The Latin Schools; Jordan Environment Society; The University of Jordan; Al-Zahra’a School; Civilization Center; and. Government Schools .....

The Minister of Education, Dr. Khaled Toukan, The President of the Board of RSCN, Mr. Anis Moasher, and the Director of WEPIA opened the Workshop. What follows are the Objectives of the workshop, the major educational principles presented, and the methodologies of integrating new materials into the curriculum discussed during the interactive sessions of the workshop.

## **Principles of Integrating Specific Subject Matter Into the Formal School Program**

### **a- Purpose and Objectives**

- **Purpose:** Deepening the Understanding of the Intersections of Education and Other Sectors.
- **General Objective:** Strengthening the Understanding of the Linkage between Education and Environment.
- **Specific Objective:** Providing Information about Methodologies of Integrating New Educational materials into the Curriculum.
- **Operational Objective:** Interactive Learning

### **b- Why is it Important to Continue Reforming the Curriculum?**

- In recognition that Education is a changing and ever growing field;
- To be responsive to emerging needs;
- To align education with other sectors;
- To render education more functional;
- To ensure that education is serving national priorities.

### **c-Important Educational Concepts**

- Education is dynamic and not static.
- Education is not just the responsibility of the Ministry of Education.
- Think globally and act locally.
- Maximize learning through interactive approaches, exploration in particular.
- Emphasizing the intersection of Education and other sectors benefits the socio-economic context of a country.
- Knowledge can be created within schools and classrooms.

- Without equity the educational system cannot be fully responsive to the socio-economic context.
- The school is an educational center as well as a center that serves the community.

#### **d-Rationale, Options, and Operational Approaches**

##### **Why are the new materials needed? (Rationale)**

- Economic Reasons
- Security Reasons
- Environmental Reasons

##### **What approach do we use? (Options)**

- Through infusion?
- Through supplementary materials?

##### **How does the process work? (Operational)**

- Through participation
- Through interactive approaches

#### **e-Conceptual Framework for the Integration of New Materials**

- General Educational Objectives of the New Materials
- Assessment of Present Educational (curriculum) and Instructional (teachers' guides) i.e: existence, relevance, quality, relationship to the new concept of responsibility, & gaps
- Matrix of existing materials
- Framework for the Integration of new materials in All Grades.
  - Objectives for each grade
  - Expected learning results for each grade
  - Sequence from one grade to another
  - Sequence within each grade
- Development of the New Materials and Pilot Testing, Revisions, and Production

*if the MOE is initiating the integration process, the process would benefit from:*

- Inviting involved stakeholders and qualified specialists to participate in the identification of the topics that need to be integrated;
- Involving these stakeholders and specialists in the development of the new material;
- Testing the relevance, utility, functionality, and practicality of this material;
- Developing teachers' training manuals and training the teachers on the use of the new material
- Working with other entities to create reinforcing messages in support of the learning process regarding the new material.

#### **g-How do you Begin A Successful Process of Integration?**

*If other than the MOE is taking the initiative of offering support to integrate new educational materials, the process would require:*

- Dialogue with the MOE that results in an agreement on the nature of the topic(s) that needs to be integrated
- Identification of key stakeholders, in addition to the MOE, that are involved in the subject matter, in Jordan for example if the decision is to integrate water conservation materials among the stakeholders that can benefit the process would be: WEPIA, RSCN, other environmental NGOs, CBOs, media representatives, and others)
- Initiating a dialogue among them;
- Facilitating a workshop whereby collectively they develop the materials; and
- By piloting, testing, and revising the new materials.

- Establishing a small committee that works on either infusing new materials to the curriculum or on developing supplementary materials;
- Working closely with the MOE to facilitate a workshop whereby collectively they develop the initial materials;
- Working with the committee on the development of the materials;
- With the MOE, piloting, testing, revising and producing the new materials.

**h-What are the 12 characteristics of successfully integrated new materials?**

1. Many stakeholders participate in the process;
2. Context driven;
3. Need driven;
4. Reflect local priorities;
5. Student-centered;
6. Gender sensitive;
7. Have multi-products;
8. User-friendly
9. Accepted by parents;
10. Adopt an interactive approach;
11. Functional;
12. Reinforced by other sectors;

**i-Strengthen the Materials by integrating them with Other Educational Priorities or Goals.**

- Increase the use of computers in classrooms,
- Increase the use of the English language;
- Improve educational quality through engaging students in hands-on activities;
- Increase the sense of civic responsibilities;
- Engage students in knowing better the remote regions of their country

- Political leaders highlighting the importance of the topic that is newly integrated
- Media as the main supporter to the new topic
- Religious leaders as the promoters within their communities
- Commercial entities producing products related to the newly integrated educational materials
- Civil society organization at large, raising the newly integrated topic to the level of their priorities.

As a result of the two-day workshop the following are the Recommendations that the Participants came up with.

### **k-Recommendations**

#### **Strategic Recommendations**

- 1- Integrate water conservation educational materials in the curriculum of the Ministry of Education by infusing it in the major topics.
- 2- Reinforce already existing water educational materials by ensuring that they include water conservation instructions.

#### **Operational recommendations**

- 3- Request the formation of a technical, specialized committee representing the Ministry of Education and other main stakeholders to begin, as soon as possible, the process of integrating water conservation materials into the curriculum.
- 4- Encourage the stakeholders who participated in the workshop to continue working together and to produce supplementary materials regarding water conservation.
- 5- Encourage positive, responsible behavior regarding water

context regarding water conservation.

- 7- Mobilize continuous support from different sectors as well as local and international donors for water conservation issues to meet urgent challenges of water resources.
- 8- Confirm the importance of interactive learning in all curriculums, and in particular in the teaching of the new integrated materials such as water conservation.
- 9- Evaluate the implementation of the recommendations every three months to measure achievements, and by the end of one year measure results.

### **3- The Lecture and Media Activities**

In addition, a public lecture on "Education in the Arab World and the Gaps between Girls' and Boys' Education" was delivered, (see attachment) a Television interview was conducted, two radio interviews, and two print media interviews.

As a result of all the above activities, the following are my recommendations for WEPIA regarding the next steps in terms of a plan and a methodology for integrating water efficiency materials into the curriculum of the Ministry of Education.

### **IV-Recommendations for WEPIA**

As a result of all the above activities, the following are my recommendations for WEPIA regarding the next steps in terms of a plan and a methodology for integrating water efficiency materials into the curriculum of the Ministry of Education. Two options are offered.

This first option is dependent on a political decision that needs to be made by the Minister of Education to instruct the Director and staff of the Curriculum Department that they need to work with WEPIA and its partners during the official work hours to integrate water conservation materials into the curriculum. It is important to note that a momentum has been built for this political decision to happen.

- 1- The Minister of Education was very pleased with the concept of the workshop, acknowledged its importance, told the participants that they can influence the behavior of one million and half Jordanian students with regards to water efficiency, and asked for the recommendations of the Workshop. It is assumed that the Minister of Education is not aware that the staff of the Curriculum department are asking for a "budget" as a condition before the cooperation on integrating water conservation materials can begin.
- 2- The Minister of Water and Irrigation has been informed of the position of the Curriculum department, and is willing to discuss the matter with the Minister of education;
- 3- Mr. Anis Moasher, ex- minister, and President of the Board of Directors of RSCN is fully aware of the situation and is willing to discuss it with the Minister of Education;
- 4- USAID and WEPIA want to address this situation with the Minister.

Based on that momentum, we recommend that a meeting be set with the Minister of Education to inform about the "condition". The result of the meeting will be optimized if the Minister of Water and Irrigation, The President of the Board of RSCN, a representative of USAID, and the Director of WEPIA attend the meeting together with the Minister of Education. (All parties involved expressed their willingness to participate in such a meeting). We believe the result of this meeting will be the political decision that is hoped for, that will instruct the curriculum department to remove this condition, and to start cooperating with WEPIA and its partners on the integration of water conservation materials in the curriculum.

1. Form a technical committee for the implementation of the decision. (per the Workshop recommendations). This committee needs to have representatives from the major stakeholders. Ideally the majority of the technical committee members should be from those who participated in the workshop, given the knowledge and skills they collectively gained. This committee will have the responsibility of the actual integration process of the new water conservation materials in grades 7, 8, and 9.

2. Facilitate a quick start up for the technical committee. The technical committee needs to work as soon as possible on the general objectives, assessment, and the matrix of the new educational materials on water conservation. (See methodologies above)

3. Invite a curriculum development consultant, such as Dr. Mona Habib, (given her expertise, her proficiency in Arabic, and her previous work in Jordan). Ideally, Mona should be able to come to Jordan during the months of August or September. Mona's Scope of Work will have as an objective to conduct a workshop of possibly three weeks with the technical committee and possibly additional participants to develop and integrate water conservation educational materials in the main topics of grade 7.

4. As a result of Dr. Habib's consultancy and work with the technical committee, the committee will be able to produce and integrate the new materials for grades 8 and 9.

5. Teachers' Guides for grades 7, 8, and 9 need to be produced based on the new curriculum that has integrated the water conservations materials.

6. In addition, we recommend that WEPIA trains a small number of school counselors/teachers. During the meetings with educational specialists, the important role that the counselors play regarding the

7. A recommendation that could be considered optional is the training of the School Club leaders that are also teachers, in water conservation. All students have to belong to school clubs and all school clubs have to have hands-on activities for the students.

### **B- The Second Option**

Just in case the political decision is not taken, (which is doubtful, given the political climate and the positive momentum that were created), the second option would be to:

- a. Produce supplementary water conservation materials for grades 7, 8, and 9;
- b. Produce teachers guides based on the supplementary materials ;
- c. Train teachers on the new supplementary materials based on the new teachers guides
- d. Train a certain number of teachers/counselors; and
- e. Train a certain number of School club leaders that are also teachers.

### **V- Conclusions**

The above recommendations could have been realistically fully implemented within the life of the project, if the project component on integrating new materials in the curriculum would have not faced all of these delays. Given the "condition" that the curriculum department had presented, serious delays took place. At this stage, the project might be able to implement many of the steps of option one; if a decision is made to implement one, an extension of the end date of the project would be recommended. In addition, an analysis of remaining resources needs to be conducted, and the possibility of a modification of existing resources, might become a need.

Option two, even though less impact most probably could be implemented within the time frame of the project.

# Lecture

<b>Gross Enrollment Rates (%) - 1985</b>				
	<b>Primary school</b>		<b>Secondary school</b>	
	<b>M</b>	<b>F</b>	<b>M</b>	<b>F</b>
<b>Country</b>				
<b>Algeria</b>	<b>103</b>	<b>83</b>	<b>59</b>	<b>44</b>
<b>Bahrain</b>	<b>110</b>	<b>116</b>	<b>98</b>	<b>97</b>
<b>Egypt</b>	<b>94</b>	<b>76</b>	<b>72</b>	<b>50</b>
<b>Iraq</b>	<b>116</b>	<b>99</b>	<b>68</b>	<b>39</b>
<b>Jordan</b>	<b>105</b>	<b>102</b>	<b>79</b>	<b>73</b>
<b>Kuwait</b>	<b>104</b>	<b>102</b>	<b>95</b>	<b>87</b>
<b>Lebanon</b>	<b>105</b>	<b>95</b>	<b>57</b>	<b>56</b>
<b>Libya</b>	<b>113</b>	<b>104</b>	<b>61</b>	<b>57</b>
<b>Morocco</b>	<b>93</b>	<b>60</b>	<b>42</b>	<b>28</b>
<b>Oman</b>	<b>85</b>	<b>68</b>	<b>36</b>	<b>17</b>
<b>Qatar</b>	<b>110</b>	<b>107</b>	<b>79</b>	<b>86</b>
<b>Saudi Arabia</b>	<b>73</b>	<b>57</b>	<b>48</b>	<b>31</b>
<b>Syria</b>	<b>117</b>	<b>102</b>	<b>68</b>	<b>48</b>
<b>Sudan</b>	<b>59</b>	<b>41</b>	<b>23</b>	<b>17</b>
<b>Tunisia</b>	<b>124</b>	<b>105</b>	<b>46</b>	<b>32</b>
<b>UAE</b>	<b>98</b>	<b>97</b>	<b>54</b>	<b>55</b>
<b>Yemen</b>	<b>96</b>	<b>35</b>	<b>26</b>	<b>11</b>

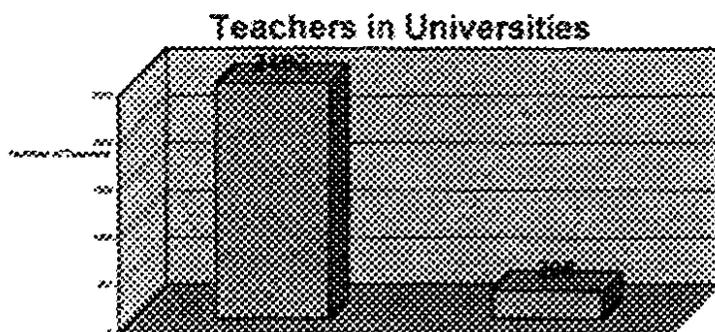
	Primary school		Secondary school	
	M	F	M	F
<b>Country</b>				
<b>Algeria</b>	<b>112</b>	<b>100</b>	<b>66</b>	<b>59</b>
<b>Bahrain</b>	<b>107</b>	<b>109</b>	<b>95</b>	<b>100</b>
<b>Egypt</b>	<b>107</b>	<b>93</b>	<b>80</b>	<b>68</b>
<b>Iraq</b>	<b>97</b>	<b>83</b>	<b>53</b>	<b>34</b>
<b>Jordan</b>	<b>94</b>	<b>95</b>	<b>52</b>	<b>54</b>
<b>Kuwait</b>	<b>74</b>	<b>72</b>	<b>64</b>	<b>64</b>
<b>Lebanon</b>	<b>111</b>	<b>108</b>	<b>77</b>	<b>84</b>
<b>Libya</b>	<b>110</b>	<b>110</b>	<b>95</b>	<b>95</b>
<b>Morocco</b>	<b>94</b>	<b>71</b>	<b>44</b>	<b>33</b>
<b>Oman</b>	<b>82</b>	<b>78</b>	<b>68</b>	<b>64</b>
<b>Qatar</b>	<b>87</b>	<b>86</b>	<b>80</b>	<b>79</b>
<b>Saudi Arabia</b>	<b>79</b>	<b>76</b>	<b>62</b>	<b>54</b>
<b>Syria</b>	<b>106</b>	<b>95</b>	<b>47</b>	<b>40</b>
<b>Sudan</b>	<b>59</b>	<b>48</b>	<b>14</b>	<b>12</b>
<b>Tunisia</b>	<b>119</b>	<b>112</b>	<b>63</b>	<b>59</b>
<b>UAE</b>	<b>97</b>	<b>93</b>	<b>74</b>	<b>81</b>
<b>Yemen</b>	<b>113</b>	<b>45</b>	<b>36</b>	<b>8</b>

Gross Enrollment Rates (%) - 1999				
Country	Primary school		Secondary school	
	M	F	M	F
Egypt	108	94	83	73
Jordan	90	90	71	74
Kuwait	78	77	64	66
Oman	78	74	68	66
Tunisia	122	114	66	63
Yemen	96	35	26	11
West Bank/Gaza	39	44	*	*

Gross Enrollment Rate (1985-1999)				
Country	Secondary School		Secondary school	
	M	F	M	F
Egypt	72	50	83	73
Jordan	79	73	71	74
Iraq* 85/95	68	39	53	34
Oman	36	17	68	66
Tunisia	48	32	66	63
Yemen	26	11	36	8
Morocco* 85/95	42	28	44	33

## Case of West Bank/Gaza Strip

- 53.7% of the girls, 56.4% of the boys are enrolled in secondary education.
- The illiteracy rate among women over the age of 15 is 20.3%,
- The illiteracy rate among men over the age of 15 is 7.8%
- The dropout rate for both boys and girls in the West Bank is higher than the drop out rates in Gaza Strip.
- 298 teachers in the universities are women compared to 2493 male teachers.



### Constraints to Girls' Schooling

- **Education Constraints:** educational demand and supply not aligned: quantity of schools, spaces, teachers, materials and equipment not sufficient; distance to school; instructional quality; and administrative structure
- **Economic Constraints:** school fees, cost of school supplies; domestic and household chores, no earning ability or accessibility to credit sources for women; budget allocations
- **Cultural Constraints:** mixed-sex classrooms, male teachers, early age of marriage, lower value placed on the education of girls
- **Political Constraints:** political policies, visions and priorities; civil wars, armed conflict, economic sanctions, instability, violence

## **Benefits of Girls' Education**

### **•Health Benefits:**

- Lower children mortality rate (birth to 5 years) the higher the education of the mother
- Improved health and nutrition of the family, the higher the education of the mother
- Increased spacing of pregnancies, and drop in fertility rates
- An improved hygienic approach to food and nutrition by the mother and the children of the family.

### **•Economic Gains:**

- Increased earning power
- Increased gross national income (Asian tigers)

### **• Environmental Benefits;**

- Improved water conservation
- Better Understanding of Energy Matters

### **• Increase in Democratic Practices**

- Increase in participation in civil society activities and initiatives
- Increased number of NGOs addressing public health and basic education issues

### **•Intergenerational Educational Benefits**

- All the children of an educated mother (boys and girls) have higher chances of access to education
- All the children of an educated mother (boys and girls) have higher chances of at least completing the educational cycles that she completed

### **•Increased Access to Technology**

- Increased comparative advantage in the emerging new economies

## **20 Strategies for Increasing Girls' Enrollment Rates**

1. **Build Political Will to Reallocate Budgets**
2. **Link Education to Health, Environment, Agriculture and Industry**
3. **Mobilize Partners from Other Sectors**
4. **Promote Localization and Decentralization**
5. **Reduce the Opportunity Costs to Girls' Families**
6. **Build Primary Schools Closer to Communities**
7. **Build Latrines Wherever Schools Lack Them**
8. **Provide Sex-segregated Schools in Appropriate Regions**
9. **Make Schools More Attractive, Stimulating, and Accommodating Places**
10. **Improve Teacher Quality Through Interactive Training**
11. **Make Teachers Agents of Change**
12. **Develop/Adapt Curricula and Teacher Training that are Student-Centered, Gender Sensitive, and Interactive**
13. **Ensure the Provision of Textbooks and Appropriate Supportive and Instructional Materials**
14. **Hire More Female Teachers at the Secondary Level**
15. **Promote Stronger Linkages between the School and the Community**
16. **Conduct Innovative and Diversity-Appreciation through Extra-curricular Activities**
17. **Utilize Technologies in Support of the Teaching and Learning Process**
18. **Instill Basic Skills in Out-of-School Girls**
19. **Integrate Parent/Child Educations to Improve Female Adult Literacy**
20. **Utilize a Diversity of Channels to Promote Cooperation, Understanding, and Tolerance**

## **Linking Girls' Education and Water**

- Evidence proves that linking education to the daily lives of communities benefits all students and in particular girls;
- Research also shows that girls achieve well in particular in practical scientific topics;
- Worldwide studies have proven that both boys and girls girls translate practical lessons into their daily lives,
- Girls in particular translate health , nutrition, and water lessons into the activities of their families.