Analyst's Guide 3.0
Release 2007

PROPERTY OF

_____

NAME

World Water Resource Board – Analyst's Guide 3.0
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GETTING INFORMATION

The WWRB video will tell you about:
1. The goals of the WWRB,
2. Your job as part of the WWRB, and
3. The countries applying for WWRB aid.

Use the table below to record important facts about "your" country.

Notes on _____ Country Assigned to You	Anything else (e.g., Water availability)
LOCATION	
TERRAIN/ LAND FORMS	
WEATHER	
PEOPLE	
OTHER	

REFLECTION: Based on what you saw on the video…
Which country do you think has the strongest argument for greatest need for water? Why?

Which country do you think has the weakest argument for greatest need for water? Why?

What data do you think you need in order to understand a country's water situation?

UNDERSTANDING THE DATA

1. Review the WWRB Data Table. Which country has the largest…
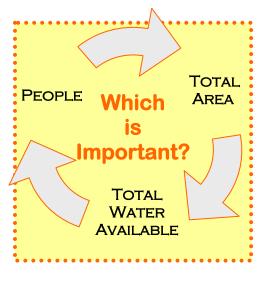
POPULATION	
LAND AREA	
WATER AVAILABLE	

2. Write a sentence to describe the water situation in each of the 3 countries. Include information from the *WWRB data table.*

ALGERIA	
JORDAN	
TURKEY	

3. How does population size impact a country's water situation?

4. How does a country's total area impact their water situation?

PEOPLE — Which is Important? — TOTAL AREA — TOTAL WATER AVAILABLE

5. How can you use the data water availability to describe any country's water situation?

6. Imagine being a person living in each country: Algeria, Jordan and Turkey. In which country would you have the **least** water? Give reasons why. Show relevant calculations.

   COUNTRY:

   REASON & CALCULATIONS:

7. Two other WWRB analysts are arguing about a different pair of countries.

   > *Clifford*: "Vietnam needs more water than Thailand. It has close to twice the water as Thailand, but its population is twice the size too."
   >
   > *Alessandro*: "Oh. But Thailand has twice the area of Vietnam. So Thailand needs more water."

   Who do you agree with? What calculations would you do?

   NAME OF SCIENTIST:

   CALCULATIONS:

REFLECTION: Based on all that you learned today…
Which country do you think has the strongest argument for greatest need for water? Why?

Which country do you think has the weakest argument for greatest need for water? Why?

HOMEWORK
MAKING THE HEADLINES

The WWRB Gazette is looking to feature a country in its next issue. Use the information and data you just learned about any of the 3 countries to make an objective assessment of their water situation. **Make a simple news flier to show how the people in Algeria, Jordan OR Turkey are affected by their water situation.**

The WWRB Gazette

Paste image/ graph here

Headline 1: _____

_____

Headline 2: _____

_____

Headline 3: _____

_____

MAKING A FAIR COMPARISON

Part I. Evaluating the Application of _____
Country Assigned to You

1. In your own words, what rationale is given on your assigned country's application?

2. How did they use the data to support their argument? Specify the measures and mathematical procedure used.

3. What units did they use (e.g., miles per gallon)?

4. Is this measure appropriate for making an argument about water needs? Justify your answer.

5. Does this measure allow one to make a fair comparison of the 3 countries?

6. Use the *WWRB Datasheet* to explore possible compound measures. Create as many as you can.

COUNTRY ASSIGNED TO YOU:					
KEY VARIABLE 1	OPERATION + − × ÷	KEY VARIABLE 2	UNIT	Is this a **SENSIBLE** measure?	Is this an **APPROPRIATE** measure of water needs?
Example 1: Population	×	Area	million people × thousand square km	NO	NO
Example 2: Population	÷	Area	People per square km	YES	NO
Measure on Application:					

Create your own

7. Without computing the actual numbers, which compound measures that you created in the table above (question #6) could be used to describe a country's water needs? Explain how you might use this or provide a fictional argument that uses this compound measure.

   Sample: *Both people and plants need water to survive. By adding population to area, we are able to find the cumulative need for water in the country.*

8. Add to the *WWRB data table* below so that it includes at least 1 sensible and appropriate compound measure. Compute the data for all countries.

	Unit	ALGERIA	JORDAN	TURKEY
Total Population	millions	31	5	70
Total Area	thousand square kilometres	2,382	92	781
Total Water Available	billion cubic metres	12	1	214
New measure:				
Optional:				

9. Which measure makes the most sense for making a **fair** comparison of the 3 countries? Why?

    MEASURE:

    REASON:

DEVELOPING AN ARGUMENT

1. Review the table you made in #8 of *Making a Fair Comparison*. Based on the compound measures you created, which country has the strongest argument? Why?

WWRB

        As WWRB analysts, your job is to make an OBJECTIVE assessment and FAIR comparison using the data available. Every country could use aid to get more water; however, some need it more than others. Your job is to evaluate the data and make the best possible argument for the country assigned to you.
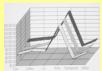
At the end of our session, analysts will gather at an assembly to evaluate all the arguments and vote on which one presents the most objective and fair argument.

JT Smith Director

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2. Use data to describe how your assigned country compares to the other applicants.

POPULATION	
AREA	
WATER AVAILABILITY	
COMPOUND MEASURE	

3. Of the comparisons you made, which data could you use to make the **best possible** argument about the need for water in the country assigned to you? Why?

4. In a few words, write an argument that uses this data to support the best possible argument for the country assigned to you.

5. What general information about your assigned country can you include to emphasize your argument?

REVIEWING YOUR WORK

> A good WWRB Analyst approaches all tasks with an analytical eye. Evaluate the strength of your own argument by answering the reflection questions below.

1. What argument did your group prepare on behalf of the country assigned to you? What compound measure did you use as evidence?
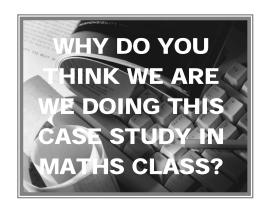
   VARIABLE or MEASURE:

   ARGUMENT:

2. Were there any other measures that you could have used?
   o IF YES, what is the alternative? Why did your group choose the one used for the poster?

3. How confident are you that what you present on your poster is the <u>best possible</u> argument for the country? Circle the number on the scale below.

   1 ────────── 2 ────────── 3
   Not Confident   Extremely Confident

4. Explain your rating.

5. Is there anything you can revise to make your argument stronger? If yes, how would you change the argument?

WHY DO YOU THINK WE ARE WE DOING THIS CASE STUDY IN MATHS CLASS?

You've done a splendid job studying the data and preparing a case for your assigned country. Now you have the final responsibility of evaluating the arguments or each group.

Enjoy reading the arguments of other groups during the *Poster Walk*. For each poster, consider these two questions: **Does their argument make sense? Is it supported by the data? You can make notes in the table below.**

J. T. Smith
WWRB Director for Case Studies

POSTER WALK

COUNTRY	ARGUMENT	DATA USED AS EVIDENCE	*NOTES or QUESTIONS*