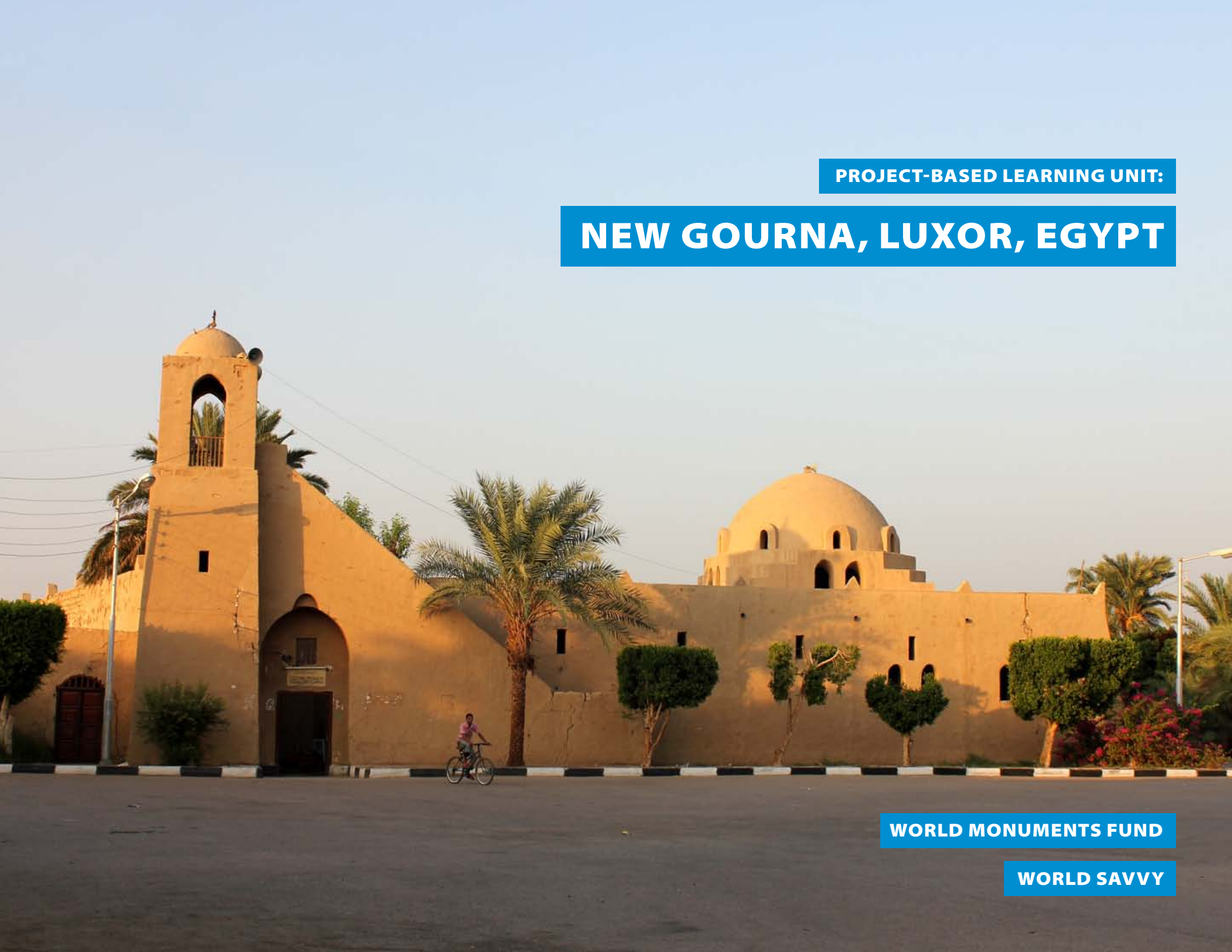
PROJECT-BASED LEARNING UNIT:

NEW GOURNA, LUXOR, EGYPT



WORLD MONUMENTS FUND

WORLD SAVVY

(Cover Image)
Egypt, New Gourna Village
View of New Gourna's mosque in the evening, 2010
Community Consortium/World Monuments Fund

WORLD MONUMENTS FUND

WORLD MONUMENTS FUND IS THE LEADING INDEPENDENT ORGANIZATION DEVOTED TO SAVING THE world's treasured places. Since 1965, WMF has worked in more than 90 countries, advancing innovation in the field and ensuring that important architectural and cultural sites remain an integral part of society and of a sustainable environment. WMF and its partners around the world seek to inspire an enduring commitment to heritage stewardship by local communities, international travelers, and others benefitting from the legacy of these sites. WMF's headquarters is in New York City. To learn more, visit www.wmf.org, www.twitter.com/worldmonuments, and www.facebook.com/worldmonuments.

WORLD SAVVY

WITH THE MISSION TO EDUCATE AND ENGAGE YOUTH IN COMMUNITY AND WORLD AFFAIRS, WORLD SAVVY prepares the next generation of leaders to learn, work and thrive as responsible global citizens in the 21st century. World Savvy was founded in 2002 in response to the critical need for youth to acquire global knowledge and 21st century skills. We create systemic change in K–12 education to provide every student in every classroom with the content knowledge, skills, attitude, and behaviors to be leaders and change-makers in their diverse communities, locally and globally. World Savvy is a leader in global education, providing interdisciplinary academic and arts programs for youth and dynamic professional development for educators to help integrate global issues into the classroom across all disciplines—science, math, history, arts, language, social studies and more. To learn more, visit www.worldsavvy.org.

UNIT SUMMARY

In this project-based learning unit, students will learn about one of the first examples of modern sustainable architecture, the village of New Gourna in Luxor, Egypt. Students will begin by exploring the concept of sustainability and sustainable architecture, using Hassan Fathy's designs at New Gourna as a case study. Students will investigate the importance of community engagement in developing strong communities and sustainable design, and the unit will culminate in a final project where students recommend changes and adaptations to make their own communities more sustainable.

Teachers are strongly encouraged to submit student projects to World Monuments Fund. WMF can, in some cases, post student work on their website, connect classrooms to those working at the site, and assess the viability of pursuing some project ideas through WMF's work in the field. Submissions and related questions should be sent to education@wmf.org.

ENDURING IDEAS

- The role of sustainable architecture and appropriate technology in meeting the needs of and building on the skills of local communities, while also minimizing the impact on the environment
- Importance of community participation and self-determination in creating sustainable communities and buildings
- The importance of using modern, innovative technologies, along with traditional and culturally-sensitive materials and know-how to meet the needs of local communities while also preserving the past

ESSENTIAL/DRIVING QUESTIONS

- What is sustainability and how does it apply to architecture? What are the qualities of sustainable architecture?
- How can we balance the social and economic needs of local communities with the environmental and resource needs of the region?
- What is community engagement? Is it an important aspect of building or preserving a community?
- How can we balance preserving historical architecture with embracing modern and innovative technologies?

SUMMARY OF STUDENT LEARNING SKILLS

- Reading and comprehension skills
- Web-based research
- Problem solving and analytical thinking
- Communication and collaboration skills
- Presentation skills
- Scientific and engineering skills

Lessons from this unit address the following categories from the Common Core Standards. To see the full listing of subcategories and grade level objectives met by this unit, see APPENDIX XII.

STANDARDS/GLE'S ADDRESSED

LITERACY IN HISTORY/SOCIAL STUDIES

Reading Standards Grades 6–12

- Key Ideas and Details
- Integration of Knowledge and Ideas

Writing Standards Grades 6–12

- Research to Build and Present Knowledge

ASSESSMENT/EVIDENCE OF UNDERSTANDING

PERFORMANCE TASKS/PROJECTS:

- Profile of a Modern Sustainable Building
- Designing a Model of a Sustainable City

STUDENT SELF-ASSESSMENT:

- One page reflection paper on the Sustainable Building Profile
- Self-assessment and reflection on the final project

INSTRUCTIONAL PROCEDURES

SEQUENCE OF LESSONS

Lesson 1: Is It Sustainable? (1 day)
Lesson 2: Sustainable Architecture (5 days)
Lesson 3: Community and Conservation (1 day)
Final Project: Building a More Sustainable Community (8 or more days)

The first three lessons build student background knowledge and critical analysis of the unit's essential questions, preparing them to continue building their skills and apply what they have learned for the final project. If instruction time does not allow for the full three weeks described in this unit, teachers may choose to utilize the first lessons to introduce students to the heritage site and the work of World Monuments Fund. See "Sample Project Calendar" (APPENDIX XI) for project timelines lasting one week and three weeks.

Graphic Organizers and Study Guides

See appendix for handouts and materials to accompany the lessons.

Integration with other Core Subjects and the Arts

See the list of standards above for specific connections of the lessons in this unit to the social studies standards.

1

1 DAY

LESSON 1:

IS IT SUSTAINABLE?

Portions of this lesson are adapted from World Savvy's curriculum guide, Sustainable Communities, pages 32–35 (visit www.worldsavvy.org for more information).

DESCRIPTION:

In this lesson, students will initially be introduced to and explore the concept of sustainability through movement. They will then examine, act out, and debate the environmental sustainability of real-life scenarios.

OBJECTIVES:

- Students will develop an understanding of the concept of sustainability.
- Students will apply prior knowledge to analyzing new concepts.

MATERIALS:

- Index cards with various movements written on them, as described in lesson below
- An open space where desks and chairs can be moved aside
- Stop watch, phone, or other device with a timer
- Large container of bite size pieces of food—candy, grapes, blueberries, or raisins, etc.
- Radio/CD player and music

1

DAY 1

10 MINUTES

INTRODUCTION DO NOW

Begin the class with a short movement activity to help to illustrate the basic concept of sustainability. You may need to be especially enthusiastic and participate alongside students to help create student buy-in for this activity! Instruct students that they will need to do each movement for 20 seconds without stopping.

Have one energetic student draw an index card, demonstrate the movement, and then encourage all to join in after a "3-2-1-Go!" countdown. After 20 seconds, call stop. Do three to five different movements, depending on enthusiasm of students.

Simple movements listed on index cards can include:

- Rub your head
- Stand on your tip toes
- Shake out your hands like they are wet
- Stand as still as you possibly can
- Jump as high as you can
- Raise your eyebrows

Once the group has done three to five different movements for twenty seconds each, gather to discuss the following:

- Which movements could be maintained for 10 minutes, an hour, a whole day?
- Which activity seems the most sustainable—humanly possible to sustain—for the longest amount of time? The least sustainable?
- How can you change or adapt some of the movements so that you can hold them for longer?

CONTINUED

1

30 - 40

MINUTES

DAY

1

CONTINUED

CLASS ACTIVITY

This quick exercise has given students an understanding of the basic meaning of sustainable—essentially the capacity to endure. Now ask students to think about the meaning of this word in connection to the environment—how does that change the meaning?

Ask for seven students to volunteer for the next activity, with the rest of the class acting as observers. Place the bowl of bite-size food at a table at the front of the classroom and ask your volunteers to move to the front of the room, but not to sit down at the table just yet. Students will be engaging in a simulation that loosely approximates the world's growing population and the resulting impacts on Earth's natural resources—but don't reveal this until after the exercise. The seven students will be invited, one at a time (at different timed intervals) to sit at the table, and begin eating the food, one item at a time. They can eat as fast or slow as they want. In several places, the teacher should stop the exercise and ask students for observations; if the teacher desires, they can use music to indicate the starts and stops. Here are the step-by-step instructions for the timed exercise.

1. Student 1 eats for 30 seconds.
2. Stop, and ask for observations.
3: Student 2 joins the table and both students eat for 30 seconds.
4: Stop, and ask for observations.
5: Student 3 joins the table and all 3 students eat for 30 seconds.
6: Stop, and ask for observations.
7: Student 4 joins the table and all 4 students eat for 20 seconds.
8: Student 5 joins the table and all 5 students eat for 15 seconds.
9: Student 6 joins the table and all 6 students eat for 15 seconds.
10: Student 7 joins the table and all 7 students eat for 15 seconds.
11: Ask all students to stop eating, and ask the class for observations.

Questions to ask students immediately following the exercise include:

- What were the differences between the beginning of the exercise and the end of the exercise?
- What do you think each student in the exercise represents? (The world's growing population; each student represents 1 billion people.)
- What do you think the food in the exercise represents? (The food represents Earth's natural resources.)
- What happened to the food by the end of the exercise? How much longer do you think the food would last if the exercise continued and students continued to join the table?

This exercise approximates the rapid growth in the world's population over the last couple centuries. In 2011, global population reached 7 billion, and the UN estimates global population could reach 10 billion by the end of the century. The first interval was long because the world's population was growing slowly for a long time, and then the world's population experienced a rapid shift in growth, with more people joining the planet more quickly. This can be seen in the shortened intervals in each round.

CONTINUED

1

DAY 1

5 - 10 MINUTES

CONTINUED

CLASS ACTIVITY

Introduce the concept of "carrying capacity" with students—essentially the maximum amount of people that the planet can support with the available resources. Then bring the conversation back to sustainability—with the planet's rising population, can people continue to consume resources at the same level and expect there to be enough for everyone? The answer, of course, is no, so discuss with students what can be done about this situation. Answers will vary, but be sure to draw out from students that people need to change their behaviors and consumption patterns to ensure there will be enough resources for everyone, and learn to adapt to the changing climate and its impacts in our world.

ASSESSMENT AND CLOSING

To conclude, have students work in pairs to devise their own definition of sustainability based on what they have learned today. Share out definitions with the class. Tell students that this unit will focus on this idea of sustainability and particularly on ways that we can create more sustainable practices in the built environment.

One sample definition for sustainability could be: "The capacity to endure (to continue to live, to last); for humans, sustainability is the potential for long-term maintenance of well-being, which has environmental, economic, and social dimensions, and includes responsible management and use of resources."

EXTENSION:

To provide more hands-on and visual examples to students of population growth and the carrying capacity of the planet, consider using educational resources from Population Connection. For example, the 7 minute video, World Population, provides an excellent visual way for students to understand the impacts of continued population growth.
http://www.populationeducation.org/

2

5
DAYS

LESSON 2:

Sustainable Architecture

DESCRIPTION:

In this lesson, students will examine, act out, and debate the environmental sustainability of real-life scenarios, including scenarios that describe the village of New Gourna in Luxor, Egypt. This will be the springboard for learning about the history of the village and efforts of World Monuments Fund in conserving it; then students will research methods of sustainable architecture and building, and prepare a profile of a sustainable building.

OBJECTIVES:

- Students will expand their understanding of the concept of sustainability.
- Students will learn how to assess the sustainability of basic actions, processes, practices, or policies.
- Students will be introduced to the concept of sustainable architecture and the conservation of New Gourna Village.
- Students will enhance their web research skills and learn about modern sustainable architecture and green building.

MATERIALS:

- Various handouts as noted in lesson (see APPENDICES I, II, III)
- Web access or print copy of chapter one of Hassan Fathy's *Architecture for the Poor* (http://www.arvindguptatoys.com.arvindgupta/fathy.pdf)
- World Monuments Fund report, *"New Gourna Village: Conservation and Community"* (http://www.wmf.org/dig-deeper/publication/new-gourna-village-conservation-and-community)
- Web access to WMF video (http://www.wmf.org/project/new-gourna-village)
- Computer access for student research

2

DAY 1

2 MINUTES

40 MINUTES

(*) This lesson is adapted from World Savvy's curriculum guide, Sustainable Communities, pages 32–35 (visit www.worldsavvy.org for more information).

INTRODUCTION DO NOW

Quickly review the concept of sustainability discussed in the previous lesson. Instruct students that now they will get a chance to look at some real-world scenarios and apply this concept to them.

CLASS ACTIVITIES:

Break students into small groups and pass out one card with a *"Sustainability Scenario*"* to each group (see APPENDIX I). Students will have 10 minutes to read, plan, and rehearse their scenarios before acting them out for the group. Post the instructions on the board and remind students that these scenarios are only small windows into a situation. They are not complete stories and won't have a beginning, middle, and end.

Small group directions:

- Read the scenario aloud as a group.
- What would make this activity sustainable? What would make it unsustainable?
- Pick an angle. Decide whether you will portray the activity sustainably or unsustainably.
- Divide roles (everyone must have one) and rehearse your skit.

After every group's performance, ask a few quick, key questions.

- Was this activity sustainable?
- Why or why not?
- How could you alter this activity to make it more or less sustainable?

Following all the performances, conduct a more in-depth discussion. Invite students to share any reflections on the process—was anything difficult or surprising to them? What are the factors that must be considered when deciding whether or not an action is sustainable (make sure to guide the discussion to include social, economic, and environmental considerations)?

CONTINUED

2

DAY 1

CONTINUED

CLASS ACTIVITIES:

Point out to students that the last two scenarios are taken from what actually happened in a village called Gourna in Egypt. On an overhead, pull up a map of Egypt, and then focus students in on the Luxor Valley, where Gourna is located. Introduce students briefly to New Gourna, using photos and descriptions from the website of World Monuments Fund, as well as the 6 minute video from the WMF website.

The example of New Gourna is significant for a number of reasons; be sure to point these out to students, each of which will be explored in more detail over the course of this unit:

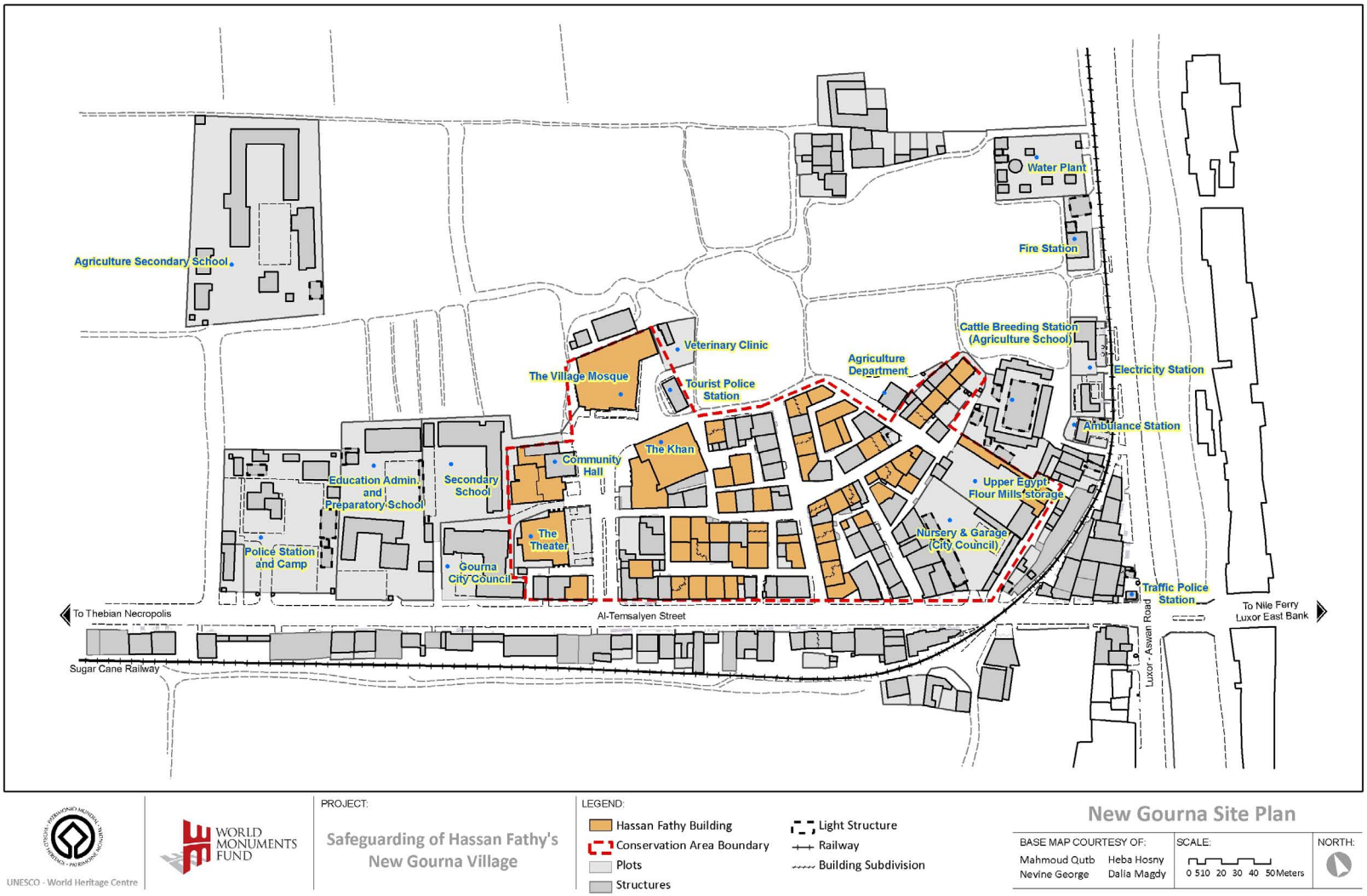
- The role of community participation in the planning and creation of New Gourna
- The use of traditional materials and craftsmanship in the building of New Gourna
- The inclusion of schools and public community spaces is part of the village design
- New Gourna, even though the full community was never finished, is an important model of sustainable architecture and a legacy of Hassan Fathy's architectural vision.

ASSESSMENT:

As you are introducing students to the village of New Gourna, have students jot down notes about aspects of the village that relate to sustainability as has been discussed over the last two days (could be either positive or negative). Allow a few minutes at the end of class to share and discuss student responses, before assigning the homework below. Have students keep these notes, as they will add to this list as they learn more about New Gourna.

For homework, have students read chapter one of *Hassan Fathy's Architecture for the Poor: An Experiment in Rural Egypt* and complete the accompanying handout (see APPENDIX II; a teacher key is provided in APPENDIX III). A copy of chapter one from Fathy's book can be found on this website: http://www.arvindguptatoys.com/arvindgupta/fathy.pdf.

2



UNESCO - World Heritage Centre

WORLD MONUMENTS FUND

PROJECT:

Safeguarding of Hassan Fathy's New Gourna Village

LEGEND:

- Hassan Fathy Building
- Conservation Area Boundary
- Plots
- Structures
- Light Structure
- Railway
- Building Subdivision

New Gourna Site Plan

BASE MAP COURTESY OF: Mahmoud Qutb, Heba Hosny, Nevine George, Dalia Magdy

SCALE: 0 5 10 20 30 40 50 Meters

NORTH:

Egypt, New Gourna Village
Site plan, 2010
UNESCO/World Monuments Fund

2

DAY 2

10 MINUTES

INTRODUCTION DO NOW

Break students into pairs to discuss the homework reading and what they have learned about Hassan Fathy and his designs for rural, peasant homes. If you'd like, show students pictures of homes in New Gourna again, looking more closely at the design and construction.

Then ask students, still in their pairs, to think about what aspects of these mud brick homes are sustainable. Have students add to the list they started yesterday about the sustainable aspects of New Gourna. After allowing 2–3 minutes to brainstorm together, discuss with the whole class.

Key points to cover in the discussion about the sustainability of Fathy's designs:

- Use of accessible materials, readily available near the location of the building (and not requiring hauling materials long distances, which uses energy and produces pollution and a large carbon footprint)
- Using appropriate technology and accessible materials is cost effective
- Accessible materials like mud are also a plentiful resource, and don't require lots of energy and fossil fuels to produce

R

REMAINDER OF CLASS

CLASS ACTIVITIES:

Sustainable architecture and design are certainly relevant and hotly debated topics in today's world. Since Fathy designed New Gourna in the 1940s, what developments have been made in the field? And what elements are similar to those that Fathy used?

Invite students to share some concepts and examples of sustainable building design that they may already know about. Generate a list on the board. Then provide a general overview and a list of some key principles for sustainable buildings. The following list is taken from the *Whole Building Design Guide* website (http://www.wbdg.org/design/sustainable.php):

- Optimize site/existing structure potential
- Optimize energy use

CONTINUED

2

DAY 2

CONTINUED

R

REMAINDER OF CLASS

CLASS ACTIVITIES:

- Protect and conserve water
- Use environmentally preferable products
- Optimize operational and maintenance practices

Additional resources for exploring sustainable architecture and building practices can be found at:

US Green Building Council:
http://www.usgbc.org/

National Resource Defense Council:
http://www.nrdc.org/buildinggreen/default.asp

Smart Communities Network:
http://www.smartcommunities.ncat.org/buildings/gbintro.shtml

Students will now get to research on their own a little more about sustainable architecture, learning more about these basic principles, and finding examples of buildings designed sustainably. Their task is to create a profile of a contemporary sustainable building—any kind of building: commercial, residential, school, or other. The building can be either new construction built with sustainable principles, or a building that has been redesigned or retrofitted to be greener. Allow the remainder of this class period and the next two days for students to do research and prepare their profiles.

Profiles should include the following:

- Be created on either 11x17 paper or posterboard
- Include visuals of your chosen building (photos, collage, drawings, etc.)
- At least 5 examples or characteristics that make this building sustainable (use symbols or VERY brief descriptions to illustrate this)

OPTIONAL EXTENSION:

Include an engineering related lesson here. Have students actually try to recreate the trial and error process that Fathy went through in finding a cheap and sustainable way to build domed roofs on the mud brick homes, using materials such as clay, wood pieces or Lincoln Logs, etc.

2

DAYS 3 - 4

Allow class time for continued student research and preparation of sustainable building profiles.

DAY 5

50 - 60 MINUTES

Egypt, New Gourna Village
New Gourna resident with the abandoned community well of the khan behind, 2010
Community Consortium/World Monuments Fund

CLASS ACTIVITIES:

This will be the day when students will present their profile and discuss their findings. They will split into groups of 4–5 and have 2–3 minutes to present their profile to their group. Then allow the class about 5–10 minutes to walk around the classroom looking at the profiles of classmates outside their group, having them take notes on new ideas they see in others' profiles.

Following the gallery walk, reseat the class for a whole group discussion. Ask the following questions of students:

- What patterns show up in the student research and profiles?
- How do contemporary principles of sustainable design compare to Fathy and his design principles?
- Do modern design principles focus more on the environment, or do they also take into account economic and social factors, as Fathy does? Explain.
- Are there differences between new buildings designed sustainably and buildings that have been adapted for reuse? Which method do you think is more sustainable overall?

ASSESSMENT:

Students will turn in a 1–2 page reflection paper in addition to their profile. They should provide a brief description of modern sustainable architecture and its main principles, and then should provide a brief comparison to Fathy and his designs. The remainder of the paper should be the students' own reflections about how sustainable architecture and design practices can be brought to the masses, as Fathy had imagined.

Optional Extension:

If possible, take a field trip to visit a sustainable building in your local community. Look at what elements and practices have been incorporated into the building to make it more sustainable, and think about what practices, on a small scale, could be easily incorporated into your home or school.

3

1

DAY

LESSON 3:

Community and Conservation

DESCRIPTION:

In this lesson, students will learn more about the attempts to conserve New Gourna and the role of community participation in this process. They will also analyze the impact of community participation and empowerment.

OBJECTIVES:

- Students will enhance their understanding of community engagement and empowerment.
- Students will utilize their skills in performance and interpreting poetry to analyze impacts of community engagement.
- Students will utilize solution-seeking skills in thinking about how the community can be engaged in conservation efforts.

MATERIALS:

- Web access to WMF video: http://www.wmf.org/project/new-gourna-village
- Copies of poem from *Architecture for the Poor* (see APPENDIX IV)

3

DAY 1

5 MINUTES

50 MINUTES

INTRODUCTION DO NOW

On the overhead, show a copy of the poem *"The Process of Decision Making,"* which Fathy included in his book (see APPENDIX IV for a copy). Give students 2–3 minutes to free write about their interpretations of what this poem might mean.

Then discuss the poem with the whole class. How do these ideas connect to the building of New Gourna?

Egypt, New Gourna Village
Lime pickers taking a break in the orchard, 2010
Community Consortium/World Monuments Fund

CLASS ACTIVITY:

Show students the WMF video on New Gourna: http://www.wmf.org/video/hassan-fathys-new-gourna-past-present-future. Then have them read the Executive Summary of the WMF report, *"New Gourna Village: Conservation and Community"* (pages 4–5, http://www.wmf.org/dig-deeper/publication/new-gourna-village-conservation-and-community). Discuss what they have read. Ask students, "How does community engagement relate to sustainability?"

The task now for UNESCO, WMF, and other partners is how to preserve the site, while engaging and empowering the community and sustainably adapting to the changing needs of the community. The next exercise will give students an opportunity to think about what comes next, but with a catch. In small groups, they will brainstorm next steps in preserving New Gourna from one of two perspectives—either "springing from the roots" or "pouring on men", to paraphrase Fathy's poem.

Split students into groups of 3–4, and assign half to one perspective and the rest to the second perspective. Each group will design a short skit from their perspective that will portray a possible scenario to preserve New Gourna. Give students about 5–10 minutes to prepare, and then ask for volunteers to present their scenarios (if time allows, have all groups present their scenarios).

ASSESSMENT:

For homework, have students apply what they have talked about today to their own communities. Keeping Fathy's poem in mind (pass out copies for them to take home, if necessary), have students write their responses (about one page) to the following questions:

Think about your own community. Can you see examples of culture that "springs from the roots" vs. culture "that is poured on men"? Explain them, and describe how each impacts the community.

4

8

DAYS

LESSON 4:

Final Project: Building a More Sustainable Community

DESCRIPTION:

In this project, students will be able to apply the ideas gleaned from previous lessons in this unit and the example of New Gourna and apply them to making recommendations for changes to their community that will make it more sustainable. Students will work in groups to examine the factors that contribute to quality of life and conceptualize their own city, keeping in mind the need to balance community engagement and empowerment with sustainability. They will develop a 2D rendering of their city to present to the school community.

OBJECTIVES:

- Students will apply their knowledge of the concepts of sustainability and sustainable architecture to design their own sustainable cities.
- Students will enhance their communication and collaboration skills.
- Students will enhance their analytical and solution-seeking skills as they devise solutions to make their designs more sustainable.
- Students will engage local community members in interpreting what a sustainable community means to them, and will enhance their statistical interpretation skills as they analyze the results.
- Students will strengthen their presentation skills by sharing their designs with the class and the school community.

MATERIALS:

- Paper
- Pens, markers, colored pencils
- Construction paper, colored paper
- Cardboard (if model will be 3D)
- Other possible art supplies: pipe cleaners, popsicle sticks, clay

This project could easily be expanded to allow time for students to delve more deeply into their designs or for teachers to introduce additional science or engineering lessons to the project. Another adaptation that teachers could make would be to have students create 3D models of their sustainable cities, instead of 2D drawings, or incorporate drafting or simulation software into the design process, both of which will probably require additional project time.

4

DAY 1

* This lesson is adapted from World Savvy's curriculum guide, Sustainable Communities, pages 173–176 (visit www.worldsavvy.org for more information).

10 MINUTES

INTRODUCTION:

Introduce students to the term "Quality of Life" and define it as the general well-being of members of a society.* Take a moment to discuss with students how this might be connected to, but not synonymous with, economic wealth.

Invite students to free write for 5 minutes on the issues that influence their own personal quality of life. They may think about day-to-day activities, health, relationships, material possessions, etc. Ask everyone to share one element they feel is necessary for them to experience a high quality of life and write responses on the board.

R REMAINDER OF CLASS

CLASS ACTIVITY:

Tell students that they are going to get a chance to walk a bit in Hassan Fathy's shoes, in the sense that they are going to redesign elements of their community to make them more sustainable. In order to start this process, let's think for a moment about this idea of quality of life.

As a class, brainstorm what a neighborhood might need in order to provide a very high quality of life for all its residents. Think about the components that Fathy included in New Gourna (plus, maybe some elements that students think he left out). Think big—students are going to get the chance to create some ideal designs for their neighborhood and this list is the start of that.

After generating a good list on the board, pass out the *"Urban Planning Elements"* handout to students (see APPENDIX V). Have students read through this handout and share their initial responses. Ask whether they think these elements would be the same in both rural (like New Gourna) or urban design.

The categories would probably be the same, but some of the factors of each category would be different—what might some of these differences be?

Students will now look at a case study of another community, an urban one, to investigate some of these urban planning elements. Pass out the article on Antonio Mockus, the former mayor of Bogotá, Colombia. Show students Bogotá on the map and ask what people know about Colombia or Bogotá. Ask for volunteers to read the article aloud, or break into small groups to read it. Invite students to share their reactions to the article:

- What urban problems did Mockus address?
- What kinds of techniques did he use?
- Why do you think they worked?

CONTINUED

4

DAY 1

30 - 40 MINUTES

CONTINUED

CLASS ACTIVITY:

Next, print out a map of your school neighborhood on the wall. Break students up into nine small groups, assigning each one the responsibility for one of the urban planning elements from the first handout. Pass out the Community Assessment Chart (APPENDIX VII) to each group and invite students to discuss the questions in the chart and fill in their conclusions.

Once the groups have brainstormed and analyzed several community solutions, ask them to focus on one and to make a small drawing and description of the solution—what will it look like and how will it function? When they have completed their drawing and description, they can attach it to the neighborhood map with tape or tacks and use a pen or marker to highlight the areas of the neighborhood that their new design will improve.

Gather students around the enhanced map and explore the new neighborhood. Invite each group to present their solution:

- What community problem did you address?
- What kind of solution did you design?
- How will your solution affect community members?
- What kind of environmental impact will your design have on the community?
- How sustainable is your solution?
- What are the benefits and drawbacks of your solution?

All the ideas generated today, as well as the nine elements of urban planning, will become the springboard for their more in-depth community redesigns, so make sure to record their ideas and post them somewhere in the classroom.

4

DAY 2

30 - 40 MINUTES

CLASS ACTIVITY:

Introduce students in more detail to the project they will be working on over the next several days (see handout in APPENDIX VIII). Have them break into the groups they will work in for the project, and set up ground rules for group work, and then begin brainstorming their designs.

Allow students to begin planning the redesign of their community to make it more sustainable—essentially they will be doing the same thing as in the previous day's class, except that they will be looking at their entire community, as opposed to just the immediate neighborhood of their school. Pass out extra copies of the Community Assessment Chart (APPENDIX VII) used in yesterday's lesson to help students brainstorm issues and solutions in their community for each of the nine urban planning elements. Remind them to keep in mind all the elements discussed so far in this unit, including:

- Sustainable Architecture;
- Traditional building materials;
- Urban planning;
- Community engagement and empowerment.

10 MINUTES

CLOSING:

Blending conservation and sustainability is a process that World Monuments Fund is very concerned with, which is similar in many ways to the process that students are about to undertake in their community redesigns. When spaces and buildings are set aside and preserved for their cultural heritage, it also means there is less space for the world's growing population to utilize. This would seem to create a tension between the conservation and sustainability communities, but WMF is working to balance these important needs.

The following are a few of the key principles that WMF advocates to make conservation more sustainable:

- Traditional building materials and practices are often more sustainable than modern, energy-intensive construction techniques;
- Restoring or reusing existing structures is typically more sustainable than building brand new structures;
- Conservation practices of restoring and reusing historical materials prevents waste and pollution;
- Heritage conservation should include assessments of the economic and social impact of cultural heritage sites—incorporating these elements that are essential to local communities ensures the success of projects and the inclusion of conservation in dialogues about sustainability. For more information, read the complete article written by WMF's Director of Research and Education, Erica Avrami: *"Sustainability and the Built Environment: Forging a Role for Heritage Conservation"* (http://www.getty.edu/conservation/publications_resources/newsletters/26_1/feature.html).

EXTENSION FOR ADVANCED STUDENTS:

Have students read the above article directly and report back to class the following day on the key points and applications to their final project.

4

DAY

3

5

MINUTES

50

MINUTES

INTRODUCTION DO NOW

Community engagement is a key element of good urban planning and sustainable design. Generate a brief discussion with students about the best ways to find out what a community's wants and needs are.

Egypt, New Gourna Village
Modern village hall, 2010
Community Consortium/World Monuments Fund

CLASS ACTIVITY:

Then have students read pages 9–10 of the WMF report *"New Gourna Village: Conservation and Community"* (http://www.wmf.org/dig-deeper/publication/new-gourna-village-conservation-and-community) and discuss their methods of gathering input from the New Gourna community. This will provide insights into a good community assessment survey. (The appendix of the report also has the actual survey instrument used, as an additional supplement, if desired.)

Have student groups spend the rest of the class period creating a short survey to find out from residents the needs of their community, which will then be incorporated into their final project design. If possible, spend a day away from school where students can survey members of the local community, either by setting up visits to various organizations or conducting man on the street surveys and interviews. If not possible, have students survey various members of the community they do have access to: family, neighbors, school community, residents in church and volunteer groups, etc. Assign a certain number of surveys for groups to administer (perhaps 20 completed surveys, or whatever makes sense for your class/time provided), and coordinate with math classes if possible to analyze the data that students gather.

ASSESSMENT:

The results of the student surveys should be incorporated into the final project design and a brief write-up or visual summary of the survey results should be included in the final project.

4

DAYS 4 – 5

Allow students the full class periods to work on the design of the project, complete their community survey, or administer their community survey.

DAYS 6 – 7

On day six, have student groups pair up with another student group to present the draft of their project design to the other group to provide some feedback and help generate support and new ideas for completion of the project. Pass out copies of the "Peer Assessment" handout (APPENDIX X) for groups to use in providing their feedback.

Allow the remainder of class for students to continue working on projects. If they have not done so yet, student groups should be starting to create the 2D rendering of their sustainable city.

On day seven, allow all of the class period for students to finish their projects.

DAY 8

Students will display their models and present their designs for a more sustainable community to the class. If possible, invite members of the larger, or at least the school, community to be part of the class and share their responses to the student projects. Host a schoolwide event where other students can view the models and engage with student groups to ask questions and learn about their designs.

ASSESSMENT:

Use the project guidelines given to students at the beginning of the project to provide feedback and assess their projects. Have each student assess the quality of their final project and the collaboration of their group by using the self-assessment rubric (APPENDIX IX).

MATERIALS AND RESOURCES

TECHNOLOGY/MULTIMEDIA (TAPE RECORDER, VCR, OVERHEAD, ETC.):

- Overhead and/or projector
- Computer lab for student research
- (optional) drafting or other computer software for urban planning

INTERNET SITES:

General Web resources:

- World Monuments Fund main site: http://www.wmf.org/project/new-gourna-village
- Video from the WMF website: http://www.wmf.org/project/new-gourna-village
- WMF report – *"New Gourna Village: Conservation and Community"*: http://www.wmf.org/dig-deeper/publication/new-gourna-village-conservation-and-community
- Online copies of Hassan Fathy's *Architecture for the Poor*: http://www.arvindguptatoys.com/arvindgupta/fathy.pdf
- Profile of Fathy and his work: http://www.caa.uidaho.edu/arch499/nonwest/Hasson_Fathy/index.htm
- PBS series, *e2: The Economics of Being Environmentally Conscious* http://www.pbs.org/e2/
- Avrami, Erica. *"Sustainability and the Built Environment: Forging a Role for Heritage Conservation"*, Conservation Perspectives, Spring 2011. http://www.getty.edu/conservation/publications_resources/newsletters/26_1/feature.html

Sustainable Architecture Resources:

- US Green Building Council http://www.usgbc.org/
- US GBC – project profiles http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1721
- 10 Sustainable Buildings http://curiosity.discovery.com/topic/green-living/10-sustainable-buildings.htm
- Summary of sustainable architecture and appropriate technologies: http://www.grat.at/competition/content/Summary_Book_International_Competition_2007.pdf

PUBLICATIONS:

Fathy, Hassan (1976). *Architecture for the Poor: An Experiment in Rural Egypt*. University of Chicago Press.

DIFFERENTIATED INSTRUCTION/ ACCOMMODATIONS AND MODIFICATIONS

GIFTED RESOURCE STUDENTS:

Have students read the entire WMF report, *"New Gourna Village: Conservation and Community"* and engage them in deeper analysis of Fathy's legacy in New Gourna, the assessment of the community and current conditions of the village, and WMF recommendations for action.

SCIENCE, DESIGN, AND ENGINEERING COURSES:

Students could draft models of their final projects, reinforcing science and engineering principles that were being taught in class. Students could also research Fathy's designs in more detail, and create models of the designs used in New Gourna.

MATH COURSES:

Utilizing the World Monuments Fund resource *"New Gourna: Conservation and Community"* provides an excellent opportunity for collaboration with mathematics and statistics classes. This report details a survey done in fall 2010 in the village of New Gourna to *"understand the relationship between the people and place of New Gourna, to identify the needs of the community, and to engage residents in conservation efforts"*. The report is filled with statistics, charts, and more, as well as details on how the survey was conducted that could be analyzed in class, or used as the model for the class to conduct their own survey of their local or school community.

APPENDIX

UNIT HANDOUTS

I

SUSTAINABILITY SCENARIOS

CUT UP THE FOLLOWING SCENARIOS AND DISTRIBUTE ONE TO EACH STUDENT GROUP.

The country is in the midst of a poor economy, businesses are closing, factories and commercial spaces are vacant, and residents are suffering. School budgets are also suffering, including your own school district. The local high school is overcrowded, and there have been plans for several years to buy land on the edge of town and build a new, high-tech building. The superintendent has cancelled this project, saying there isn't enough money for a new school, and angry students and parents are organizing protests about this cancelled plan.

Ugh—stuck in traffic again! Every afternoon, when rush hour starts, hundreds of workers load into their cars and hit the streets and highways all at the same time. The population of your town has grown steadily for the last twenty years, and indicators show that it will continue to grow at the same pace for years to come. State officials are raising money and drafting plans to redesign and add new highways, and the mayor is holding a series of public meetings to get input from the local community about what should be done.

Gardening is your hobby—flowers and fruit trees, but most of all that bright green lawn. You moved to Las Vegas a few years back, and Las Vegas doesn't have much water. It is right in the middle of the desert and water is pumped in from a lake over 30 miles away. What's worse, we're in a drought right now and Lake Mead, from where your water is pumped, is 100 feet below normal. But if you skip even one day of hosing down your beautiful garden, every plant is going to be brown and burned.

CONTINUED

I

SUSTAINABILITY SCENARIOS

CUT UP THE FOLLOWING SCENARIOS AND DISTRIBUTE ONE TO EACH STUDENT GROUP.

CONTINUED

Several monuments in your neighborhood are popular tourist attractions, drawing thousands of visitors a year. The government is interested in increasing tourism even more and is worried about the potential impact this would have on residents, so they have created a plan to relocate people living nearby to a different location, which means you'll be forced to leave your home. They have hired an architect to work with the community to design and build a new neighborhood for you to live in.

The neighborhood you live in has a very distinct architectural style, with domed roofs and arched doorways. Over the past few years, many of your neighbors have remodeled their homes in ways that do not preserve this style. The reason for this is that the original one story homes built for families with 3 or 4 members now have 20 or more people living in them as people take in their extended families. There is no room, however, to expand the homes horizontally because the houses are built next to each other, so families have chosen to expand their homes vertically instead. The domed roofs have been torn off to add another level to the one story homes, and arched doorways have been walled up to create new rooms.

STUDENT HANDOUT: *ARCHITECTURE FOR THE POOR*

Read chapter 1 of Hassan Fathy's *Architecture for the Poor*, and answer the following questions about the reading.
http://www.arvindguptatoys.com/arvindgupta/fathy.pdf

1. According to Fathy, what are the normal housing conditions for peasants in rural Egypt?

2. What did Fathy see as the solution to improve housing for peasants? Why?

3. What historical event made Fathy's solution more attractive?

4. Based on Fathy's description, describe or draw the homes, with the domed roofs, designed by Fathy.

5. Why was the Egyptian government seeking to build a new village of Gourna?

6. What aspects of Fathy's designs (or Fathy himself) do you think made the Egyptian government choose him as the architect for this project?

Read chapter 1 of Hassan Fathy's *Architecture for the Poor*, and answer the following questions about the reading. http://www.arvindguptatoys.com/arvindgupta/fathy.pdf

1. According to Fathy, what are the normal housing conditions for peasants in rural Egypt?

Small mud brick homes, dirty and dark with no windows, and thatched roofs; many had no latrines, no clean water, with garbage strewn outside the homes; villages were dirty, cramped and had narrow alleys and streets full of mud and garbage. Livestock and animals were kept close, if not inside, the homes.

2. What did Fathy see as the solution to improve housing for peasants? Why?

Fathy decided to use the material that peasants had been using to build homes for centuries – mud bricks – and create a better design utilizing this free and plentiful resource. His first attempts to design mud brick homes were cheaper, but only partly so, because he was still using timber for the roofs.

3. What historical event made Fathy's solution more attractive?

During World War II, all steel and timber supplies, which largely came from outside Egypt, were cut off. This made using mud bricks more attractive because it was one of the few materials builders could still access, and now Fathy just had to find a solution to building a roof with no timber.

4. Based on Fathy's description, describe or draw the homes, with the domed roofs, designed by Fathy.

See photos from World Monuments Fund for samples of domed homes designed by Fathy.

5. Why was the Egyptian government seeking to build a new village of Gourna?

Gourna was located on the site of the Necropolis of Thebes, in the Luxor Valley, which includes many important burial sites of pharaohs from ancient Egypt. The government of Egypt was interested in promoting tourism to the area and needed space to create an infrastructure for tourism and to secure the sites from rampant looting. Thus the government proposed rebuilding the entire community of Gourna in a different site.

6. What aspects of Fathy's designs (or Fathy himself) do you think made the Egyptian government choose him as the architect for this project?

Answers will vary, but may include: the cost effectiveness of Fathy's designs, the varying uses and designs that could utilize mud bricks, Fathy's proven use of mud brick homes in other communities, Fathy's self-professed confidence, Fathy's ambition to impact poverty by improving housing.

IV

THE PROCESS OF DECISION MAKING

ARCHITECTURE FOR THE POOR

Culture springs from the roots

And seeping through to all the shoots

To leaf and flower and bud

From cell to cell, like green blood,

Is released by rain showers

As fragrance from the wet flowers

To fill the air.

But culture that is poured on men

From up above, congeals then

Like damp sugar, so they become

Like sugar-dolls, and when some

Life-giving shower wets them through

They disappear and melt into

A sticky mess.

V

URBAN PLANNING ELEMENTS

The following are examples of nine of the most common characteristics that should be incorporated into quality urban planning, along with some questions to help you think about how they fit into design planning.

HOUSING:

What kind of housing is available in your community? Is it safe? What kind of carbon footprint does the housing in your community make?

COMMERCIAL ZONE:

What sorts of businesses and industries occupy your neighborhood? Are there too many of one kind of business or industry? Not enough of another? What kind of environmental impact do these businesses and industries make?

SAFETY:

Do you feel safe in this neighborhood? Would it be safe for anyone, including children and elderly people, to be out at night? What issues contribute to safety or lack of safety?

OPEN SPACE:

What kinds of open spaces (parks, gardens, lakes, waterfronts, etc.) exist in your neighborhood? What are they used for? Do you see opportunities to expand the open space in your neighborhood?

CULTURAL AND SOCIAL SPACES:

What kinds of cultural and social spaces do you find in your neighborhood—churches, schools, museums, art galleries, community centers, etc? Are there places for people of all ages—children, teens, adults, senior citizens—to gather? What are these places like?

TRANSPORTATION AND ACCESS:

What kinds of transportation options are available in your community? Is transportation accessible and affordable? Is there significant transit through your community (highways, streets, pedestrian walkways, bike lanes, etc.)? What is the environmental impact of transit in your neighborhood?

FOOD AND WATER:

What kinds of food are most easily accessible in your neighborhood? Do community members have access to healthy foods and clean water? What sorts of food production takes place in your community? What is the environmental impact of food produced and consumed in your community?

ENERGY:

What forms of energy are used and produced in your community? Are any renewables (such as wind or solar power) being generated or utilized? What is the environmental impact of energy use and production?

WASTE:

What sort of waste is disposed of, transported, or processed in your community? Where do you see waste in your community? Do people have access to garbage bins, recycling containers or composting facilities?

VI

CommUniTOPIA

Excerpted from World Savvy's Sustainable Communities Collaborator's Guide, 2011

BRILLIANT BOGOTÁ

Antanas Mockus was the Mayor of Bogotá, Colombia from 1995-2003. He turned the city into a social experiment in a time when it was choked with violence, lawless traffic, corruption, and gangs of street children who mugged and stole; many believed Bogotá was on the verge of chaos.

Under Mockus's leadership, Bogotá saw the following improvements: water usage dropped 40%, 7,000 community security groups were formed and the homicide rate fell 70%, traffic fatalities dropped by over 50%, drinking water was provided to all homes (up from 79% in 1993), and sewerage was provided to 95% of homes (up from 71%). Mockus used unconventional techniques to make change.

When there was a water shortage, Mockus appeared on TV programs taking a shower and turning off the water as he soaped, asking his fellow citizens to do the same. In just two months people were using 14% less water, a savings that increased when people realized how much money they were also saving because of economic incentives approved by Mockus; water use is now 40%less than before the shortage.

He also asked people to pay 10% extra in voluntary taxes. To the surprise of many, 63,000 people voluntarily paid the extra taxes. Another Mockus inspiration was focused on city safety. Florence Thomas, a feminist and a professor, pointed out to Mockus that in Bogotá women were afraid to go out at night. "At that time, we were also looking for what would be the best image of a safe city, and I realized that if you see streets with many women you feel safer," Mockus explained. So he asked men to stay home and suggested that both sexes should take advantage of the "Night for Women" to reflect on women's role in society. About 700,000 women went out, flocking to free, open-air concerts. They flooded into bars that offered women-only drink specials and strolled down a central boulevard that had been converted into a pedestrian zone. That night the police commander was a woman, and 1,500 women police were in charge of Bogotá's security.

Another innovative idea was to use mimes to improve both traffic and citizens' behavior. Initially 20 professional mimes shadowed pedestrians who didn't follow crossing rules: A pedestrian jaywalking across the road would be tracked by a mime who mocked his every move. Mimes also poked fun at reckless drivers. The program was so popular that another 400 people were trained as mimes.

Even though Mockus is no longer mayor, his spirit lives on in the life of the city with an event called Ciclovia. Essentially, the city closes down 70 miles of its busiest roads every Sunday and opens it up to non-car traffic like bikes, rollerblades, walkers, runners and even impromptu games of soccer. This attracts more than 1.5 million people each week. The benefits have been large including better health for its citizens, less traffic on Sundays, more trade for local vendors and increased tourism.

VII

Excerpted from World Savvy's Sustainable Communities Collaborator's Guide, 2011

COMMUNITY ASSESSMENT CHART

Describe the current state of your urban planning element in your community.	What elements are positively impacting people and the environment? (What is working for people? What is working for the environment?)	What elements are negatively impacting people and the environment? (What is not working for people? What is not working for the environment?)	Brainstorm solutions to these community problems.	What are the benefits and risks of each solution? How would these solutions affect people + the environment?

VIII FINAL PROJECT

BUILDING A MORE SUSTAINABLE COMMUNITY

Your final project is to apply what you have learned about sustainability, sustainable architecture and traditional building materials, and the role of community empowerment in design, to redesign aspects of your community to make it more sustainable. You will work in a small group of 3–4 students to plan out the design of your city, and then create a 2D rendering of your city.

Because Hassan Fathy was relocating a village, he planned where homes, public spaces, schools, the mosque, and other buildings were to be located in the new village. Your community already has all or many of these spaces, so your group's task will be to fill in gaps where things are missing, based on the activities that are important to the community. In addition, you should also update and change existing structures and spaces to make them more sustainable, using either traditional and cost effective materials as Fathy did, or modern technology—or a combination of both. Utilize what you learned from profiling a modern sustainable building and incorporate it in this final project. Also keep in mind the priorities that WMF utilizes in preserving cultural heritage for future generations while keeping their impact on the environment minimal.

The final rendering of your city should be on paper, no larger than 3′ x 3′. You can draw the final design or use construction paper, images or other methods of illustrating your designs and the overall city layout. The goal here is to spend most of your time on the sustainable design of your city, not to spend too much time on the cosmetic features of your drawing. You will be assessed on the quality of the process and overall design elements, not the artistic features of your drawing.

Each group will present their final redesign and drawing to the class, and perhaps members of the local community who will be invited in to participate. Each member of your group should speak about some part of your design in the final presentation.

Your final drawing should include the following elements:

1. Urban planning elements—all nine urban planning elements should be incorporated into your design and described in your drawing. Use a legend, just like on any map, to mark these elements of your design so they are easily visible.
   a. Housing
   b. Commercial zone
   c. Safety
   d. Open space
   e. Cultural and social spaces
   f. Transportation
   g. Food and water
   h. Energy
   i. Waste

In addition, on separate index cards or a sheet of paper that will be displayed next to your drawing, include the following items:

2. Sustainability—identify the sustainable elements of the architecture and systems of your city.

3. Community engagement—briefly describe how you got input from the community on the design, and the main results from your community survey.

IX

SELF-ASSESSMENT

BUILDING A MORE SUSTAINABLE CITY

STUDENT NAME: _____

PROJECT NAME: _____

Use this form to reflect on the project you have created and the work and effort you put forth in the process. Reflect on both strengths and weaknesses, thinking back on all the steps you took in creating this project.

1. Did my project meet all the criteria set forth in the project guidelines?
   List each criteria and examples from your project that meet those criteria?

2. What steps did you take in completing this project? Briefly list them below.

3. Upon reflection, are there any steps that could have been added or done differently to make this project more successful?

4. What is the strongest aspect of your project?

5. What do you wish you could change or improve about this project?

6. What is the most important thing you learned in this project?

X

PEER ASSESSMENT

BUILDING A MORE SUSTAINABLE COMMUNITY

STUDENT NAME: _____

Use this form to offer feedback and constructive criticism for your peers as they practice their presentations.

STUDENT NAME: _____

What did student do well? (give 2-3 specific examples)	What can student improve on? (give 2-3 specific examples)

STUDENT NAME: _____

What did student do well? (give 2-3 specific examples)	What can student improve on? (give 2-3 specific examples)

XI

NEW GOURNA, LUXOR, EGYPT
SAMPLE PROJECT CALENDAR

One Week Timeline

Topic: Sustainable Architecture

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Project Week 1	**Lesson 1, Day 1** *Is It Sustainable?* Introduction to sustainability, addressing population growth and carrying capacity.	**Lesson 2, Day 1** *Sustainable Architecture* Deeper investigation into sustainability, its processes, and behaviors. Introduction to the work of Hassan Fathy and history of New Gourna.	**2.2** Discuss excerpts of *Architecture for the Poor* and Fathy's designs for New Gourna. Introduction and comparison to modern sustainable architecture. Instead of building a complete profile as the unit lesson calls for, instead have students find a profile of a sustainable building for homework.	**2.3** In small groups, have students share out about the sustainable building they researched for homework. Have groups discuss the elements of sustainable architecture in their groups, then share out these examples with the whole class.	**Lesson 3, Day 1** *Community and Conservation* Students learn about the role of community empowerment in sustainable design, and how WMF is engaging the community in plans for preserving New Gourna.

XI

NEW GOURNA, LUXOR, EGYPT
SAMPLE PROJECT CALENDAR

Three Week Timeline

Project: Building a More Sustainable Community

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Project Week 1	**Lesson 1, Day 1** *Is It Sustainable?* Introduction to sustainability, addressing environmental, economic, and social factors.	**Lesson 2, day 1** *Sustainable Architecture* Deeper investigation into sustainability, its processes, and behaviors. Introduction to the work of Hassan Fathy and history of New Gourna.	**2.2** Discuss excerpts of *Architecture for the Poor* and Fathy's designs for New Gourna. Introduction and comparison to modern sustainable architecture.	**2.3** Students research and develop a profile of a contemporary building designed (or redesigned) with principles of sustainable architecture.	**2.4** Class day for student research and development of building profiles.
Project Week 2	**2.5** Class presentation of sustainable building profiles.	**Lesson 3, day 1** *Community and Conservation* Students learn about the role of community empowerment in sustainable design, and how WMF is engaging the community in plans for preserving New Gourna.	**Lesson 4, day 1** *Building a More Sustainable Community* Students will apply their understanding of sustainable architecture and the role of community to redesign elements of their community to make them more sustainable. Begin the project by studying the elements of urban planning.	**4.2** First full work day for final project. Students should split into groups and begin brainstorming, and researching as needed.	**4.3** Mini-lesson on surveying the community to gather input on their needs and desires for urban planning. Review WMF's process of assessing residents of New Gourna as an example. Students then design and conduct their own surveys to incorporate into their projects.
Project Week 3	**4.4** Class work day for designing projects and conducting community surveys.	**4.5** Class work day for designing projects and completing community surveys.	**4.6** Pair student groups up to provide feedback and peer assessment of projects.	**4.7** Final work day for sustainable redesign projects.	**4.8** Presentation of sustainable communities to classmates and local community members invited to participate.

XII

FULL LISTING OF COMMON CORE STANDARDS

The following list outlines the complete standard descriptions for each standard that is addressed as part of this unit.

To read more about the Common Core Standards or download the complete list of standards, visit www.corestandards.org.

LANGUAGE ARTS

READING STANDARDS FOR INFORMATIONAL TEXT GRADES 6–12 (RI 6-12)

Key Ideas and Details

1. (grades 9–10) Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

Integration of Knowledge and Ideas

7. (grades 11–12) Integrate and evaluate multiple sources of information presented in different media or formats (e.g. visually, quantitatively) as well as in words in order to address a question or solve a problem.

WRITING STANDARDS GRADES 6–12 (W 6–12)

Production and Distribution of Writing

4. (grades 9–12) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Research to Build and Present Knowledge

7. (grades 9–12) Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. (grades 9–10) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
8. (grades 11–12) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

XII

FULL LISTING OF COMMON CORE STANDARDS

SPEAKING AND LISTENING STANDARDS GRADES 6–12 (SL 6–12)

Comprehension and Collaboration

1. (grade 9–10) Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
   - b. Work with peers to set rules for collegial discussion and decision-making (e.g. informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
   - d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
1. (grade 11–12) Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
   - b. Work with peers to promote civil, democratic discussion and decision-making, set clear goals and deadlines, and establish individual roles as needed.
   - d. Respond thoughtfully to diverse perspectives, synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

Presentation of Knowledge and Ideas

4. (grades 9–10) Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
5. (grades 9–12) Make strategic use of digital media (e.g. textual graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

XII

FULL LISTING OF COMMON CORE STANDARDS

LITERACY IN HISTORY/SOCIAL STUDIES

READING STANDARDS GRADES 6–12 (RH 6–12)

Key Ideas and Details

2. (grades 9–10) Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
2. (grades 11–12) Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

Integration of Knowledge and Ideas

7. (grades 9–10) Integrate quantitative or technical analysis (e.g. charts, research data) with qualitative analysis in print or digital text.
7. (grades 11–12) Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g. visually, quantitatively, as well as in words) in order to address a question or solve a problem.

WRITING STANDARDS GRADES 6–12 (WHST 6–12)

Production and Distribution of Writing

4. (grades 9–12) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Research to Build and Present Knowledge

7. (grades 9–12) Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. (grades 9–10) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
8. (grades 11–12) Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
9. (grades 9–12) Draw evidence from informational texts to support analysis reflection, and research.