

Book Review – *Reinventing Sustainability: How Archaeology Can Save the Planet*, by Erika Guttmann-Bond.

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In 2010, *World Archaeology* published an article by Erika Guttmann-Bond (2010, p. 356), which stresses the importance of sustainable agriculture for developing and developed countries, and argues that “we already have the technology to make substantial improvements in the way we manage the countryside.” In order to support this argument, Guttmann-Bond examines the use of wetlands for farming purposes, traditional water collection and transportation methods in desert areas, ways to minimize soil erosion and the benefits of intercropping. Guttmann-Bond’s book *Reinventing Sustainability: How Archaeology Can Save the Planet* is a return to these ideas. This book, which ambitiously examines a vast field, attempts to inform general readers that “we can use some aspects of early technology, and we can combine old, tested techniques [re-discovered through archaeological excavations] with new systems and inventions, to create a healthier, more sustainable and environmentally richer planet” (Guttmann-Bond 2019, p. 8). Guttmann-Bond (2019, p. 1) is very clear that much of the discourse surrounding human interactions with the environment has focused on “the failures of the past.” The goal of her book is to inform readers of some of the successful ventures using traditional knowledge, which she hopes will lead to further initiatives in sustainability.

Reinventing Sustainability is divided into seven chapters presenting the reader with a survey of the different traditional farming and building techniques that have been successfully used in different environments and time periods. The first chapter provides some contextual information, introduces readers to fundamental problems that have affected both agriculture and the environment, and provides a general overview of archaeology. First, Guttmann-Bond provides background information on the Green Revolution and identifies the negative effects it had on communities around the globe. It had detrimental consequences on human health and the

environment, it failed to maintain higher crop yields over prolonged periods of time, and many farmers turned away from using traditional techniques and strains. Second, Guttman-Bond introduces climate change to the reader and stresses that it is a serious issue that the global community needs to address despite contrary claims found on many websites. Therefore, she highlights the importance of archaeology since it has allowed us to better understand these traditional methods that can be used to reduce and even remove greenhouse gases in the atmosphere. The contents of the first chapter make it evident that Guttman-Bond is writing to a general audience as she introduces many basic concepts critical for her discussion, including sustainable agriculture and environmental and experimental archaeology. In the second chapter, Guttman-Bond outlines how wetlands have been perceived over time, how they can be used in food production through traditional methods like raised beds, and how government initiatives to reinstate wetlands can have a variety of benefits. The third chapter identifies the increasing desertification of the planet and outlines methods that have been used historically and in the present-day to store and transport water for farming purposes. The fourth chapter deconstructs some of the perceived benefits of industrial agriculture, as Guttman-Bond maintains that smaller farms utilizing intercropping methods and growing local traditional crop varieties can be more productive, even if they are situated in areas with poorer soil quality. Chapter five examines the problems surrounding the degradation and erosion of the soil, which allows her to segue into a discussion of how traditional methods, including Terra Pretas, reducing tillage and creating terraces, can be used to minimize or prevent these problems. The sixth chapter promotes the benefits of vernacular architecture, which includes not only making a structure's interior more comfortable to live in, but also better able to maintain its structural integrity when certain natural disasters occur. In the final chapter, Guttman-Bond (2019, p. x.) "brings it all together" by touching on some of the major ideas of the book regarding traditional knowledge and more recent technologies, and how using the two together in some fashion can create "efficient and cost effective" changes that make both the environment and humans healthier.

In her "Foreword," Guttman-Bond (2019, p. ix) highlights the comment made by a reviewer of *Reinventing Sustainability*, who thought it "should not be written" since the field is too vast. She rejected this opinion. There is no doubt that the topics Guttman-Bond tackles in *Reinventing Sustainability* are large, and this book is not a comprehensive study of these issues; nevertheless, her text brings some valuable ideas to the forefront and invites further discussions. One recurring

theme Guttman-Bond (2019, p. 17) explores is the need to actively collaborate and seek input from locals to solve community problems: “we cannot march into a country and tell the people what to do.” Through her discussion of the Green Revolutions, both new and old, and the aid work conducted around the world, Guttman-Bond demonstrates that inclusive decision-making is critical in communities, and imposing policies upon them without taking into account local cultures, dynamics and input may prove to be detrimental. Furthermore, Guttman-Bond (2019, p. 4) identifies that “in the 19th century West, modern technology was hailed as the cure for all human ills, and it was seen as the way forward to a better life,” and this is a mentality that accompanied the Green Revolution. Guttman-Bond’s work outlines some of the problems that may accompany this line of thinking, particularly if traditional techniques are simply discarded because of natural assumptions that they are unprogressive or inferior. Lastly, Guttman-Bond (2019, pp. 22, 42, 130, 144) repeatedly highlights the idea of humans “working with nature instead of against it,” which can be used to segue into a broader examination of how people from different cultures interact with the natural world.

As mentioned above, the book examines a vast field, but Guttman-Bond provides numerous examples to demonstrate how organizations, governments and experimental farms have been using traditional techniques or blending them with modern technologies to handle sustainability and other modern-day problems. Guttman-Bond (2019, p. 2) notes that some people continue to “scoff” at her ideas and wants to show “the many ways that people have adapted to often very different environmental conditions.” That said, this book is a survey of selected examples of sustainability and although she provides numerous examples, she fails to delve into some of the topics in great detail. This is not unexpected given the length of the book.

For example, Guttman-Bond devotes approximately four pages to qanats in her chapter “Farming the desert.” Within these pages, she explores the history of qanat development and use, the reasons why many qanats have fallen out of service and the benefits that can be gained by restoring and improving on them, with a particular focus on how they can be beneficial to Oman. Within those four pages, she makes the point that qanats can still be useful, aligning with research conducted by Hussain, Abu-Rizaiza, Habib and Ashfaq: a source that is cited in the chapter endnotes and which presents a more comprehensive examination of qanats than Guttman-Bond’s text. Hussain *et al.* (2008) present a general overview of qanats in four countries, insights to

determine which qanats to restore, and note potential gains and problems for moving forward. The book therefore acts as a valuable roadmap to more comprehensive discussions of the particulars.

It should also be noted that the endnotes that accompany the chapters “Wetlands and wetland agriculture” and “Farming the desert” tend to come from older sources—very few of the sources listed for those two chapters were written within the last ten years. Although Guttman-Bond wants to highlight that these traditional methods have already been employed with success, readers may want to see more updated information regarding their development and use. For example, the primary source for her discussion on the *aflaj* in Oman is Dutton’s chapter in the 1989 publication *Qanat, Kariz and Khattara*, which Guttman-Bond (2019, p. 65) believes can be a blueprint to “enable the ancient system to continue functioning.” It would be interesting to see more updated research on whether Dutton’s proposals were put into action and, if so, the effects they have had on the communities in Oman. Updated material is certainly available. Abulbasher Shahalam’s (2001) literature review on *aflaj* reveals some of the research that has occurred in Oman since Dutton’s 1989 publication. More recently, Grace Remington’s (2018) research illustrates that concerns over water management continue to exist in Oman outside of simply making the *aflaj* structurally functional and efficient.

It may have been beneficial to write a longer book that provides a more in-depth analysis of some of these examples of sustainability, but many factors could have influenced the decision to publish a shorter book. That said, Guttman-Bond provides a solid survey of various projects that have been taking place around the world in an engaging and easy to follow text for the general reader. The book introduces the reader to many traditional agricultural techniques and vernacular architectural designs in a variety of different environments and provides a starting point for readers to engage in further research on their own. Although her ideas have been criticized as being “pie in the sky” in the past (Guttman-Bond, 2019, p. vii), some of her conclusions about sustainable agriculture and using traditional methods align with those found within other research studies. One fundamental point that Guttman-Bond (2019, p. 156) identifies in her discussion is motivation and the need “to understand what really motivates people.” The question regarding motivation has been identified by Nelson, Scott, Cukier and Galán (2009, p. 240) within the context of sustainable agriculture in Cuba, and they believe it “should be the subject of further study.” This is a crux of the field—some people will certainly buy into sustainable agriculture, and Guttman-Bond

provides examples of people who have certainly been supportive of using more traditional practices. However, it will be a tougher sell for others.

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