Homework 8 Solar Power for Africa 2020 Due October 20

On Thursday we heard from Patrick Sherwin from GoSun Company (https://www.gosun.co). He discussed some of the problems with forming a startup business, particularly the "gap" between initial success and long-term market entry. Below are three business models for solar cookers for application in the developing world.

https://www.teachamantofish.org.uk/assets/images/assets/uploads/Solar-Cooker-Business-Guide.pdf

https://solarcooking.fandom.com/wiki/Business_development

https://solarcooking.fandom.com/wiki/Category:Solar_food_drying

a) Consider the budget at the end of the first webpage. The sheet indicates a profit of $700 on about a $1,500 investment which includes 10 hours of labor. What happens if only half of the 500 cookers are sold? Is this budget in touch with reality?

Figures: Solar Box Cooker

Start-up Costs				Profit Calculation: 500 Cardboard Box Solar Cookers			
Item	Unit Cost	Unit (s)	Total Cost	Item	Unit Cost	Unit (s)	Total Cost
Start-up Costs:				Operational Costs:			
Equipment to make boxes:				Materials:			
Knife	$2	1	$2	Inner Boxes	$0.50	500	$250
Tape	$2	10	$20	Outer Boxes	$0.70	500	$350
Scissors	$2	1	$2	Other Materials	$1	500	$500
Other	$20	-	$20	Contingency	$0.10	500	$50
Marketing:				Labour	$0.30	500	$150
Advertising Budget	-	-	$100	**Total Operational Cost:**			**$1,300**
Contingency Fund			$20	Solar Cooker Sales	$4.00	500	$2,000
Total Start up Cost:			**$164**	Total Revenue			**$2,000**
				TOTAL PROFIT			$700

$1.40 profit on every solar cooker sold (after start-up costs).

b) What is missing from this business plan? How would you consider the marketability, competition, demand, impact on other players in the economy? Who are the stakeholders? What is the motivation of the people involved in this endeavor? Who would be put out of work by implementation of solar cooking and how would they be accommodated?

c) The second webpage explains several marketing plans for simple solar cookers. A list of solar bakeries is given
https://solarcooking.fandom.com/wiki/Solar_restaurants_and_bakeries
Consider these companies in the context of the "gap" that Patrick mentioned for a startup company, that is between the initial eager investors and purchasers and long-term market impact and use by "normal" people.

d) The last webpage discusses hybrid solar dryers for instance to produce dried mangos. Do you think that this is an innovative technology? Comment on these business concepts for solar energy.