

ACTION FIGURE

THE BIG-IDEA GUY

RENOWNED FRAME BUILDER CRAIG CALFEE HAS A NEW GOAL FOR HIS QUIRKY BAMBOO BIKE—TO CREATE COST-EFFECTIVE AND ECO-FRIENDLY TRANSPORTATION FOR DEVELOPING COUNTRIES.



Calfee, 45, thinks bamboo bikes could aid developing nations such as Ghana.

In the late '80s, when most frame builders were stuck on steel, Craig Calfee embraced carbon fiber. Then working out of his Santa Cruz, California, garage, Calfee caught the attention of three-time Tour de France champion Greg LeMond, who ordered 18 of Calfee's frames for Team Z in 1991.

In 1996, Calfee made a bicycle out of bamboo as a publicity stunt. He added a bamboo frame to his line in 2005 so that casual riders and serious racers alike could appreciate the superior ride quality of bamboo. Now, he's bringing his eco-friendly design to another group of people—farmers in Africa.

HOW DOES BAMBOO STACK UP TO OTHER FRAME MATERIALS?

It has a higher strength-to-weight ratio than steel. It's not as stiff as carbon, so a frame ends up being a little heavier. The tricky part of bamboo is that it has great strength, but it's somewhat flexible. You need thicker-walled bamboo for torsional stiffness. I'd say it's most similar to aluminum, but its vibration dampening is better than carbon fiber.

FIRST YOU WORKED WITH CARBON BEFORE IT CAUGHT ON, NOW YOU'RE THE ONLY ONE BUILDING BIKES MADE OF BAMBOO.

WHERE DO YOUR IDEAS COME FROM?

You know, I hate that question. It's hard to answer, because where do people come up with ideas? I'm

WHO BUYS YOUR BAMBOO ROAD BIKE?

I have sold 97 frames so far. The only thing the buyers all have in common is that they're willing to try something different. You might call them early adopters.

trained as an artist, so I look at things differently. I'm not trained as an engineer, and I think a lot of the principles engineers are trained in may prevent them from coming up with innovative ideas.

WHAT IS THE CONSTRUCTION PROCESS LIKE?

We use bamboo that has been heat treated to prevent splitting. Then we miter the tubes to fit each other and tack them together with adhesive, similar to frame welding. Then we wrap the joints with either hemp or carbon fiber, and coat them with epoxy. When the epoxy cures, you have an incredibly strong joint.

SO, THEN HOW DO YOU GO FROM HIGH-END ROAD BIKES TO AFRICA?

I have always thought a bamboo bike would be appropriate for developing countries. I spent six months in Africa 25 years ago. When you've been to a place like that, you start to realize the incredible need for decent transportation. I also became aware of the amount of bamboo that is available. Furthermore, I saw that

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up with the bike, people said, "We have bamboo here. We can make this bike here." That realization led people to show extreme gratitude. They appreciate that we want to build the frames with local materials and local labor, and they were volunteering instantly because they'd like jobs. Not only that, the bike is incredibly useful in Ghana. People immediately saw the value of the idea, whereas if you just talk about it you get shot down. The contrast in just talking about something and actually doing it has never been so clear to me.

people have a lot of skill in making things with their hands, because they can't go to the store and buy things. That trip has been very influential in how I perceive the world.

Recently, I went to Ghana with funding from the Earth Institute to show people how to build cargo bikes from bamboo. We brought one built in the United States and left it there for people to test. Then we demonstrated how to build one out of bamboo that we harvested there.

HOW DID PEOPLE REACT TO THE BIKES?

At first, the people in Ghana were insulted by the idea that we were coming to their country to build bamboo bikes. However, when we showed

Bamboo's vibration dampening trumps carbon's, Calfee says.

WHY ARE BIKES IMPORTANT IN NATIONS LIKE GHANA?

For farmers who want to transport their produce to the market, bikes are especially helpful. In the developing world everybody wants a car, but few can afford one. Not many people can afford a bicycle either, but if they can buy a local bike from a local builder, that helps build the economy.

ARE BAMBOO BIKES EASY TO MAKE?

The locals picked up on it fairly quickly. The difficulty comes in finishing the frame. We skipped the last step—filing and sanding it down so it looks nice. That takes a lot of time and work. Also, the bamboo we used there was not treated, which means the frames will eventually split and be eaten by bugs. We need to find a way to get the bamboo treated, and the government of Ghana is helping. They have a lot of bamboo and want to make use of it.

WHAT'S NEXT?

We are waiting to see how the people we've trained are going to pick up and run with the idea. We're planning to go to the northern part of Ghana where more people already ride bikes and do a similar demonstration. We also need to figure out the precise model for development to pursue so we know how much funding we need.

ANY OTHER BIG IDEAS IN STORE?

Yeah, but I would rather not talk about them yet. People would shoot them down and then they'd never go anywhere.—Christine Mattheis

WHERE DO BIKES COME FROM?

Depends on what kind of ride you're having.

—Jeff Siress, KY; roadie

Overhead garage hangers—that way I don't run over them...again.

—Tom Gabehart, CA; mountain rider for Cal Coast Bicycles/Schreiber Framing

Dealers. That explains why I'm an addict.

—Eric V. Jeppesen, WA; roadie

Go 5 miles down the highway and take a left. When you get to the second light take another left, then take the second right, and the bike store will be on the left-hand side.

—Dustin Quade, IA; roadie

See, son, when a male bike and a female bike love each other a lot...

—Heidi Littenberg, NV; avid roadie

Answer upcoming Big Questions at BICYCLING.com/bigquestion. ■ What was your proudest riding moment? ■ Where does your bike want to go? ■ How much time should you spend with your bike?

BECAUSE YOU RIDE

The number of **fortune cookies** you'd need to eat to replenish the **1,620 calories*** burned on a **four-hour, 10-mph ride.**

*based on a 150-pound cyclist