

Synergo Arts is an Arizona nonprofit organization dedicated to helping artists and artisans around the world use ergonomics to maximize their health, income, productivity, and art/craft quality.



Ergonomics is the science and art of designing systems, work methods, tools, and equipment to be compatible with human capabilities.

Synergo Arts
Ergonomics for Artists and Artisans

www.synergoarts.org



**Synergo™ Weaving Bench
for Backstrap Weavers**

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Synergo™ Weaving Bench: ergonomics for backstrap weavers

Synergo created the ergonomic bench to help women artisans increase their income, safely.

This new technology is revolutionary in its positive economic benefit to artisans who depend on the centuries-old tradition of backstrap weaving for their livelihood.

Unlike the traditional posture of kneeling on the ground, the bench lets women protect their health, while producing more products of better quality. As a result, they increase their ability to provide for their families, and also preserve their weaving culture.

The success of this nonprofit design work comes from its origins in the indigenous community. Currently we are developing educational resources and systems support make the bench and education available to backstrap weavers throughout Latin America and, eventually, around the world.

Ergonomic opportunity

The traditional method of weaving is very hard on the weaver's body. She kneels on the ground, straps the loom around her hips, and rocks back and forth to adjust the tension on the cloth while she weaves. Symptoms of fatigue, pain & numbness limit weaving tolerance and are readily evident in how slowly and stiffly a weaver moves when she gets up from the ground. Such chronic, debilitating injury to the body has serious implications for these women who depend upon physical work for their livelihood. In Guatemala alone, there are half-a-million women with this problem, and the same problem is present in at least 17 other developing countries.



Traditional posture

Ergonomic solution



Ergonomic innovation

The Synergo Weaving Bench provides women with an innovative alternative to the traditional kneeling posture. It consists of a bench that rocks with the rhythm of the weaver's body and an interlocking footrest that provides stability and

leverage. The bench and footrest can be adjusted to fit each individual weaver. Education and skill building accompany the technology so that women can empower themselves to use the bench safely and to maximum benefit.

Results

Comments from Mayan weavers in Guatemala demonstrate the economic benefits:

"What used to take me three days to weave now takes two."

"I used to be able to weave for 30 minutes, then had to quit for the pain; now I can weave for three hours with no pain."

The cloth *"comes off the loom with straighter edges and more evenly packed weft"* and *"it's cleaner, because it's not so close to the ground while it's being woven."*

And from their daughters:

"I want a bench like my mother has now, so that my body won't get the years of abuse and pain that hers has."

For more information contact:

Karen Piegorsch, PhD

karen@synergoarts.org

520-400-1017

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