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# Package 90, Script 13

April 2010

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## Transforming the bicycle into a vehicle of innovation

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### Notes to broadcaster

Millions of rural villagers worldwide do not have access to electrical power to operate machines.

Despite the rapid technological advances of the past century, much of this innovation has not reached the five hundred million smallholder farmers worldwide. These smallholders live on less than one dollar a day. The high cost of farming tools and other inputs traps farmers in a poverty cycle, where they rely heavily on their only resource, manual labor.

This script talks about using a bicycle to provide electrical power to run a maize sheller. Schools with classes year round are plagued by frequent student absence during the harvesting season. In this case, helping sustain the family with food takes precedence over education. This script can be used in any country to teach the use of the bicycle as a source of energy for shelling maize to reduce costs and time.

This script is based on actual interviews. You could use this script as inspiration to research and write a script on a similar topic in your area. Or you might choose to produce this script on your station, using voice actors to represent the speakers. If so, please make sure to tell your audience at the beginning of the program that the voices are those of actors, not the original people involved in the interviews.

Signature tune

**Presenter:** Welcome, dear listeners, to the *Prosperity program*. In this program, we talk about how farmers can benefit from farming. Today, you are with me, Lazarus Laiser, your presenter.

Signature tune up and out under presenter

**Presenter:** Do you know that when a bicycle is connected to a maize shelling machine, it can help shell up to fifteen bags of maize per day? Just by pedaling it works as if powered by electricity. Imagine, (*pause)* you can shell up to fifteen bags of maize per day, compared to using your hands, where you can only shell three to five bags. Farmers in Arusha, Tanzania, have started using this technology, and it is cost effective. How about you? Stay tuned.

**SFX**: Sound of shelling machine up, then fade down under presenter

**Presenter:** Farmers working with a company called Global Cycle Solutions have transformed the bicycle into a vehicle of innovation. It is a low cost technology that helps post-harvest processes such as shelling and grinding corn and grains.

Local Maasai music

**Presenter:** Mr. Philemon is an innovative farmer. He uses the bicycle to shell maize.
His company won second prize during the agricultural show in Arusha in August 2009 for this innovation. In the following interview, he discusses how the maize sheller works when connected to a bicycle.

**SFX**: Sound of sheller up, then fade up under presenter

**Laiser:** Why did you decide to start using this technology?

**CLIP (Philemon):** Many small-scale farmers use their hands to shell their maize. This innovation will ease their work. Instead of shelling three or four sacks of maize per day, they can do more – up to fifteen bags a day.

**Laiser:** Is it affordable to small-scale farmers?

**CLIP (Philemon):** Yeah. It is affordable, because not many farmers here can afford tractors, which are very expensive. Keep in mind that there are three ways to shell maize: by hand, with a tractor, or by putting it in a bag and beating it. The machine is easy to use. You only need to know how to pedal your bicycle. We found that children like this work very much. Farmers need to pay very little to get this machine. Only sixty dollars and you have it.

**Laiser:** What difference does it make for small scale farmers?

**CLIP (Philemon):** It can make a big difference. Using this machine can help them to shell fifteen sacks a day. By using this machine, they can shell 30 bags of maize in only two days. By hand, it can take two weeks

**Laiser:** What are the disadvantages?

**CLIP (Philemon):** Until now, we have not seen any disadvantages.

**Laiser:** Would you recommend this machine to other communities?

**CLIP (Philemon):** **Yes. I recommend that people buy and use them. This is an easy machine to use, it’s affordable and it simplifies the work. I myself use the machine.**

Local Maasai music

**Presenter:** The maize sheller machine run by a bicycle is the perfect solution for small-scale farmers. These farmers harvest a lot of maize and they bruise their hands when they remove the dried maize from the cob. This solution not only makes the process of removing the corn easy and fast, but creates a viable business by removing other farmers’ dried maize as well. So this innovation helps improve the lives of the small-scale farmers by providing them with business opportunities. Here is the sound of farmers shelling their maize. Stay tuned.

**FX:** Sound of maize shelling machine at work

**Man 1:** (*Loudly*) Come closer, everyone. We need to finish this work today. It’s a very tough work. Ok, here we go. Harambee … harambee … (*Editors’ note:* “Harambee” *means “all pull together” in Swahili.*)

**FX:** Sound of men and women shelling maize by beating their hands against a bag containing maize. Underneath, sounds of complaining that their hands are itching from shelling maize by hand.

**Man 2:** Ok, we need to encourage ourselves. We are almost done.

**SFX**: *Shelling maize by hand*. Harambee … harambee … harambeee …

**Woman:** This is tiresome work. From the morning till now, we have only shelled three bags of maize. We need a simpler way to do the work, in order to make it easier.

**SFX:** *Celebrating and rejoicing to strengthen men and women beating maize in the bag*

**Man 1:** We need to work hard.

**Man 3:** (*Shouting and laughing at them*) You are still using an old fashioned method? Farmers have discovered a maize shelling machine which is run by a bicycle. You can just attach the shelling machine to a bicycle. All you need is the ability to pedal your bicycle and one person can shell maize quickly. You can shell fifteen bags a day!!

**All:** (*Amazed*) Haa! Fifteen bags? Where can we get this machine?

**Man 2:** (*Thinking*) There is a person in the next village that has this machine. He will come if we ring him.The machine is very cheap to buy. It’s only 60 US dollars. Within one or two hours, you will have finished this work.

**All people:** (*Amazed*) If it’s cheap we can pay! Please give us his number!

**Man 1:** I have money in my phone. Give me the number.

**SFX:** *Dialing a number*

**SFX:** *Telephone ringing*

**Man 1:** We have heard you have a machine on the back of your bicycle which can shell maize. Can you come to our village? (*Pause as if he is listening to the response*).

Good, it is just five kilometers down the main road. We will be waiting for you. Come quickly! (*Pause as he disengages from the call*). He is coming! He will be here in a few minutes.

**SFX:** *Everyone cheers. Slowly fade out cheering to nothing, then bring up sound of bicycle bell ringing. Voices celebrate and sing. Continue sounds of celebration and singing for 15 seconds, then bring up sound of maize shelling machine at work.*

**All:** Yeaaaaaa! (*With a lot of celebration*)

Local Maasai music

**Presenter:** Let me tell you a little bit more about the bicycle-powered maize machine and how it works.

The machine is very easy to use. The user can power a number of attachable devices without changing the bicycle itself. The machine can attach to the back of almost any bicycle, transforming the bicycle into a tool with many uses.

Farmers and engineers are working hard to add more uses to the bicycle, including a mobile phone charger and a machine to grind maize for flour.

Today, (*pause*) farmers can use the bicycle in three ways. First, it can run a maize shelling machine. This can shell maize not just for the family, but for neighbours and friends, saving time and earning money.

Second, as a grinder. Using the bicycle to power a grinder will grind grains very quickly to prepare the meal for the family, at a very low cost.

Third, a bicycle can help run a charger which saves time by charging a phone on the go, instead of going to the nearest town. These are farmers’ innovations. Can you try them?

For more information, ask any agricultural worker or your fellow farmer who uses technology to teach you. Till next time, at the same time on the same station. I am your presenter, Lazarus Laiser. Bye for now.

Signature tune up and out

## Acknowledgements

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Reviewed by: Neil Noble, Practical Answers Coordinator, Practical Action UK.

## Information sources

* Interviews on October 23, 2009 with:
	+ Philemon M. Kivuyo, Global Cycle Solutions, Arusha, Tanzania
	+ Losikito farmers
	+ Oloirien farmers

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