

# Pack 106, Item 2

# Type: Drama

May 2017

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**Packed and ready to go: Good quality packaging and handling boosts income from tomato sales**

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**Notes to broadcaster**

Growing vegetables like tomatoes can be a lucrative business. And vegetables contain vitamins and minerals at a much higher level than staple foods like grains.

But vegetables are perishable and easily damaged. Up to 40% of tomatoes packed in common wood crates can be damaged and must then be discarded or sold at a lower price.

Vegetables must be carefully handled and packed. To market good quality vegetables, it is necessary to pack them in good quality containers that protect them from damage and deterioration during storage and transportation.

Packaging should immobilize its contents and provide protection from impact and from extreme weather. It should also make vegetables easier to handle and transport, be easy to clean, and look attractive. All this will improve farmers’ selling price. Better quality produce means more income at the market.

This drama shows how using good quality containers such as small plastic crates, and using liners for crates can strongly reduce bruising and other damages. It outlines best practices for sorting, handling, hygiene, and packaging so farmers can make the most from their fresh produce.

You could present this drama as part of your regular farmer program by using voice actors to represent the speakers.

You could also use this script as research material, or use it to produce your own script on the best ways to package perishable produce in your country.

Talk to farmers and experts who grow and market vegetables and fruits. You might ask them:

* How can farmers decrease the damage from harvesting and transportation?
* What kinds of packaging are available in your area? What is the best way to transport your produce to reduce damage?
* What creative solutions have farmers and experts found for these problems?

Estimated time for the script, including intro and outro, is 25 minutes.

**CHARACTERS:**

**Extension officer:** Man in mid-forties, knowledgeable and trained in agriculture.

**Maina:** Good farmer, likes to pay attention to detail and determined to succeed.

**Wanja:** Very impatient, proud.Not-so-serious lady farmer, does not pay much attention to detail and likes doing things the same old way. She likes instant success and is always ready to make a sale.

**SIG TUNE UP THEN UNDER**

**NARRATOR:** Today’s program shows how packaging tomatoes can lead to better quality fruits at the market, and better income for farmers.

Tomatoes are widely used for cooking in Kenya, especially in stews, and can be eaten raw or mixed in salads. So the demand for tomatoes is high all year round.

Tomatoes are very nutritious too. One ripe, medium-sized tomato provides almost all of the vitamin C needed in a day, and 20% of the vitamin A. Tomatoes also contribute B vitamins, potassium, iron, and calcium to the diet.

Most tomatoes need about 70-75 days from transplanting to first harvest, and can be harvested for several weeks before production falls. Tomatoes do well in warm conditions with average humidity. Extremely high temperatures will decrease yields, and too much humidity will increase the chance of diseases such as bacterial wilt.

Tomatoes are a good source of income for farmers if they follow standard practices for growing good quality tomatoes.

In today’s drama, we meet two tomato farmers who learn how to package tomatoes well for transportation to the market—so their tomatoes stay healthy and fetch a good price. Stay tuned.

**SIG TUNE UP THEN OUT**

**SETTING:** Wamugunda market in central Kenya. Wamugunda means “of the farmland.”

**SCENE 1**

**SFX:** SOUND OF BUYERS AND SELLERS HAGGLING OVER PRICE AT THE MARKET

**NARRATOR:** Welcome to Wamugunda market in central Kenya. This is where farmers Wanja and Maina come to sell their tomatoes every Tuesday and Saturday. It is early morning and the two farmers have just set up their tomatoes for sale.

**Tomato buyer 1:** Hi, Wanja, how are you today?

**Wanja:** I am very fine. How many kilograms of tomatoes do you want today?

**Tomato buyer 1:** (UNSURE) Three … may ... be … Actually ... why don’t I buy from Maina today because I want a mix of both raw and ripe.

**Wanja:** I will choose for you the ones you want.

**Tomato buyer 1:** No ... I ...

**Wanja:** (INTERJECTING) It’s okay, I will give you a good discount.

**Tomato buyer 1:** Its okay, Wanja, let me get tomatoes from Maina. I can maybe buy ... ermm ... garlic from you? I will be right back.

**Wanja:** (DESPERATELY) How about buy one get one free …?

**Tomato buyer 1:** No thanks. (laughing as she walks off mic) Maybe tomorrow? How are you, Maina!

**Maina:** I am very fine. How may I help you? I have green raw tomatoes here, the ripe ones are there, and right over there are the medium—they are not so green but not too ripe yet.

**Tomato buyer 1:** They look so nice, Maina. I don’t have to choose; I can already see what I want. I will take two kilos of raw and medium each, and a kilo of ripe ones.

**Maina:** (EXCITED) That will be five kilos—great! Anything else?

**Tomato buyer 1:** That will be all, thank you! I will get garlic from Wanja. (whispering) I don’t think she is very happy with me today.

**Wanja:** (TIRED VOICE) Nice tomatoes at a good discount ... Teacher Kairu, even you will not buy my tomatoes?

**Teacher Kairu:** Sorry, Wanja, Maina’s tomatoes are better today. Perhaps next time? (Excited with an English accent) Maina, I will take four bunches—two kilos ripe and two medium.

**Wanja:** (whispering to self scornfully) Two kilos ripe, and two medium ... fake English accent*.* (clicking hER tongue) Now where will I take all these tomatoes? Maina ...

**Maina:** Yes, Wanja?

**Wanja:** Tell me what kind of black magic you are using. You have taken practically all my customers today! I know we grow tomatoes the same way, but suddenly your tomatoes look better than mine!

**Maina:** Wanja, the secret is in the packaging.

**Wanja:** (Sarcastically) Packa ..? What? Is that a new kind of fertilizer?

**Maina:** It’s an English word, Wanja … you know, the thing we do after harvesting the tomatoes to be ready for the market.

**Wanja:** (Sarcastically) Oh, now you are not only an expert on tomatoes but English too? Is it because you just sold tomatoes to Teacher Kairu? By the way, I will remind you that my family has always been the best tomato farmers in Wamugunda village!

**Maina:** If you were not so proud, maybe you would learn a thing or two from me. I actually learnt something new this week. Those wooden crates that you use bruise the tomatoes. But that is not all; a lot of care needs to be taken when handling tomatoes right from planting to packaging for the market.

**Wanja:** Oh! So now these wooden crates that WE have been using for years are suddenly bad for tomatoes? And where did you learn all these secrets?

**Maina:** I am not an expert, Wanja. I just learnt something and decided to try. And see the results? All my tomatoes are sold.

**Wanja:** (Tired) And mine are all here ...

**Maina:** Tell you what? I learnt all this from the extension officer from the agricultural office, and he will be coming to look at my tomatoes tomorrow. Why don’t you come and learn from him? And hopefully by next market day, we will both sell all our tomatoes.

**Wanja:** (Tired) Do I have a choice? I have a farm full of tomatoes that I need to sell before the rains come. I will be there tomorrow.

**Maina:** Okay, I will see you at 10 a.m. then. I have no more to sell, so I will leave you to sell your sorry-looking tomatoes.

**Wanja:** Let me see if anyone will be interested in buying mine now that I have no competition from you. Tomatoes, tomatoes for sale … Buy one get one free … please ... buy two get two free ...

**SFX**: FADE OUT MARKET SOUNDS.

**SCENE 2**

**SETTING:** Maina’s home in Wamugunda village in central Kenya.

**SFX:**FADE UP FARM SOUNDS (CHICKENS, COWS),THEN FADE DOWN AND HOLD UNDER. SOUND OF FOOTSTEPS COMING ON MIC, THEN KNOCK ON DOOR.

**Wanja:** (Breathing hard) Hallo … anybody home? Maina, are you there?

**Maina:** Come in, come in, Wanja. You are early. Mr. Karani will be here in 20 minutes.

**Wanja:** I want to learn as much as I can. My tomatoes went to waste yesterday. I cannot afford these losses with the many bills I have to pay.

**Maina:** Okay then, maybe we can move to the farm as we wait for him.

**SFX:** FARM SOUNDS AND FOOTSTEPS

**Wanja:** So, (BREATHING OUT) about this packaging ...

**Maina:** (laughing) The English word that you thought was fertilizer yesterday?

**Wanja:** (slowly) Don’t even start …

**Maina:** I am just kidding (laughing). I can show you the plastic crates that I am now using as we wait for Mr. Karani. They are right here, near the store.

**SFX:** Door opening

**Maina:** These are the crates tha …

**Wanja:** (Interjecting Sarcastically) But these are bread crates!

**Maina:** Yes, they are, but they are better than the wooden crates that we have always used. They are also lighter than the wooden crates.

**Wanja:** I cannot believe that this is the only thing that made my customers buy your tomatoes!

**Maina:** Well, Wanja, it’s not the only thing—you still need to have healthy tomatoes. But the difference between wooden crates, polythene bags, and plastic crates is quite big.

Let me show you. (Pulling the plastic CRate) You see this plastic crate is smooth inside, unlike this wooden crate here. You can feel it by running your hand inside the crate.

**Wanja:** (Thoughtfully) Actually, you are right.... It is quite smooth … and the wooden crate does have some sharp points.

**Maina:** Yes, and with our rough roads and badly-driven buses, it’s not good for the tomatoes. By the time we get to the market, most of the tomatoes are bruised.

**Wanja:** So is that all? I just need to buy this crate to bring my customers back?

**SFX:**  Footsteps approaching

**Maina:** Oh no, there is a lot to do. But I see Mr. Karani is here. I will let him continue.

Hallo, Mr. Karani. This is Mrs. Wanja; she is my neighbour and also a tomato farmer like me. Yesterday she hardly sold any tomatoes, so today she is here to find out what magic I am using to steal her customers. (laughing)

**Mr. Karani:** How are you, Wanja? Nice to meet you.

**Wanja:** Hallo, Mr. Karani. So you are the one who has the secret of winning my tomato customers back? You know my family has always been …

**Maina:** (INTERRUPTING and laughing) ... the best tomato farmers in Wamugunda village … yes, yes, Wanja, you will always remind us of that … but let’s learn something about packaging tomatoes that your family might just benefit from.

**Mr. Karani:** Actually, Wanja, if you follow the instructions for proper packaging well, your customers will extend beyond the village market to the city, and you might just reclaim your family’s position of being the best tomato farmers in the village!

**Wanja:** So why are we wasting time? Let’s start NOW!

**Mr. Karani:** Ok, can we start from the beginning? You know that to have healthy tomatoes, you have to do things correctly from the start, right?

**Wanja:** And by the start you mean …?

**Mr. Karani:** Right from choosing healthy tomato seeds, preparing your land, and making sure that your plant is looked after well until harvest.

**Wanja:** Of course, but we know that—right, Maina? Let’s get to the real stuff. So I have just harvested the tomatoes—what then?

**Maina:** Not so fast, Wanja. We can briefly learn from Mr. Karani what we need to do before harvest that will guarantee a good harvest.

**Wanja:** But …

**Maina:** (INTERRUPTING) My farm, my rules ... if you are not …

**Wanja:** (INTERRUPTING) Okay, okay … but very briefly.

**Mr. Karani:** Plant your tomatoes in well-drained soils and select good quality seeds that are disease-resistant. Give each plant enough room to grow. For the best results, put some fertilizer in the hole before planting. After germination, cover the ground with 2 to 4 inches of mulch to reduce weed competition and help keep the soil evenly moist.

Since Wanja is very eager to get to the harvest part, let’s jump right into harvest. Let’s move closer to the tomatoes that are ready to be picked. Maina, bring the plastic crates so that I can show you how to do it.

**SFX:** Footsteps

**Maina:** Here are the crates.

**Mr. Karani:** Thank you, Maina. You see, on this tomato plant there are tomatoes at different points of ripening. These green ones, the pink ones down here, and these red ones which …

**Wanja:** (INTERJECTING) You call them “pink”? Why?

**Mr. Karani:** I will explain the colours, Wanja. Green is when the tomato is raw; pink is when the tomato has just started ripening but is mostly green; and red is when it’s ripe and ready to use.

After harvest, it’s important to separate the tomatoes into the different stages of ripening so there is less bruising of the tomatoes, especially the ripe ones. Don’t harvest the very ripe ones for the market, as they easily bruise.

**Maina:** It also makes it easier for the buyers to just handle what they want to buy and avoid bruising other tomatoes—right, Mr. Karani?

**Mr. Karani:** You are right, Maina. Now, the first thing you do when harvesting is separate the different colours of tomatoes into three different crates: green, pink, and red. But a lot of care must be taken during harvesting so that you don’t bruise the tomatoes.

**Wanja:** Let me try and harvest the different types from this plant. So I remove the green and drop it ther ...

**Mr. Karani:** (INTERRUPTING GENTLY) No, Wanja! Don’t drop them. Place them carefully into the crate like this.

**Wanja:** Wow, we will never make it to the market on time at that rate!

**Mr. Karani:** If you are worried about time, start early when the sun is not up yet. Tomatoes have a shorter life span when they sit in the hot sun after harvest. But if you must harvest when it is hot, then put the crate in the shade.

Wanja, dropping a tomato more than six inches onto a hard surface like you did can cause internal bruising that will not show until the tomato is cut open.

**Wanja:** Okay. So then I place them carefully like this?

**Mr. Karani:** Yes. External bruising happens when you throw tomatoes too hard into the crates. Also, don’t overload the crates, because excess weight will cause bruises due to compression. It's best to use crates that are not too deep so that the tomatoes at the bottom don't get squashed. A depth of 20 cm up to a maximum of 30 cm is good.

**Wanja:** That’s it? Now we are ready for the market?

**Maina:** (exasperated) Not so fast, Wanja … there is still a lot to be done. Continue, Mr. Karani.

**Mr. Karani:** After harvesting, remove the tomatoes from the containers gently to prevent injuries. Then we do what is known as pre-sorting. This is where you remove the injured, decayed, or defective tomatoes. This will limit the spread of disease to healthy tomatoes. The tomatoes are then washed.

**Wanja:** (Shocked) Washed?! We never wash tomatoes! I thought they would decay faster if we washed them. At least that is what my mother taught me, (proudly) who by the way was a very successful tomato farmer in this village …

**Mr. Karani:** (INTERRUPTING) Things have changed, Wanja. The reason people thought that tomatoes should not be washed is because they washed them in dirty containers without drainage holes, and they would decay.

If you store tomatoes in water, they rot fast. So use large basins with drainage holes, and wash them gently to remove any dirt they may have picked from the farm, and then allow them to dry before packing them. You can add a little chlorine bleach or vinegar—one or two mls of chlorine or vinegar per litre is enough. This sanitizes the tomatoes to prevent the spread of disease from one tomato to another. It also limits the buildup of disease organisms in the wash water.

**Maina:** And we can use the usual chlorine bleach or vinegar sold in the local shop?

**Mr. Karani:** Yes, Maina, that will do.

So if you hadn’t sorted the tomatoes during harvest, this is when you sort the tomatoes based on quality, size, and maturity, and depending on your customer’s preferences.

This is an advantage to you because it makes it easier to market to different clients. If your tomatoes are well-graded, they will fetch a good price.

**Wanja:** (Thoughtfully) Oh, now I get it. The supermarkets in the town want the large pink premium tomatoes with no injuries, but some of my village clients want ripe, ready-to-use small tomatoes. If I sort them well, I can price the tomatoes accordingly. Right?

**Mr. Karani:** Correct, Wanja! And that way you will not have wastage. The supermarket will probably send someone to pick their tomatoes from your farm, and you can take the other sorted tomatoes to the market. The buyers will not need to test the tomatoes for size and maturity because they can see them at a glance and decide what they want.

**Maina:** (Proudly) That is why I was able to sell all my tomatoes yesterday!

**Wanja:** Right, the secret is out now! So now we go to the market, right?

**Mr. Karani:** Almost there, Wanja. After sorting, then we do our packaging. Packaging helps contain the tomatoes to make handling and marketing easier. It protects the tomatoes from injuries, and from extreme weather like high heat and rain during transport, storage, and marketing.

Good packaging also provides information to the buyers. The package can show the variety of tomatoes, the weight, number of tomatoes, and grade. And if you’re exporting, it can show the country of origin.

Wanja, tell me how you pack your tomatoes for the market.

**Wanja:** Well, it depends. If they are not so many, I will use a polythene bag or wooden crate. If there are many tomatoes, then I will use the big nylon sacks.

**Mr. Karani:** Polythene bags do not offer any protection from injury. Also, they cause a build-up of heat, especially when exposed to the sun. And so the tomatoes will sweat, which causes a build-up of germs and quick decay of the tomatoes.

As Maina showed you earlier, the wooden crates cause bruising to the tomatoes because of their sharp edges. A good packaging container should be easy to transport. And when it’s empty, it should occupy less space than when full. It should provide good ventilation during transport and storage to prevent build up of heat and carbon dioxide. The size and design should be suited to whatever form of transport is available.

**Wanja:** For small-scale farmers like me, I want something that is not expensive but is readily available.

**Maina:** Hence the plastic crates?

**Mr. Karani:** Yes, you may use the plastic crates. You may also use collapsible or foldable crates, which are more expensive. And if you are packaging for export, special carton boxes may be required by the importing country.

Remember to use suitable lining material inside the crate, such as paper or woven polypropylene. This helps reduce damage to tomatoes. Perforated lining is best because it allows good ventilation.

**Wanja:** What would you advise to avoid bruising the tomatoes during transport?

**Mr. Karani:** If you don’t have a car or cannot afford to hire one, then hire a minibus as a group of farmers to transport your produce to the market. If that isn’t possible, then just talk to the motorcycle rider and ask them to go very slow. Use crates with raised edges so that when the crates are stacked, the tomatoes inside will not squashed by the crates on top.

Now that you have packed your tomatoes nicely in the plastic crates so that they are not compressed, load the crates carefully onto the motorbike and secure them with strong rope. If the ride is slow, there will be minimal or no damage at all to your tomatoes.

**Maina:** That makes a lot of sense—right, Wanja?

**Wanja:** Oh yes. My motorbike rider will no longer fly along the road with my tomatoes! Actually, I will pay him after inspecting to see that my tomatoes are not damaged!

**Mr. Karani:** Yes, Wanja, that actually takes me to the final stage of handling tomatoes after harvest. After the tomatoes have reached the market, unload them carefully and put them under shade.

You may need to re-clean them and re-sort them if they gathered dirt along the way, or if any got damaged during transportation. Display them attractively under a shade. I guarantee you good sales if you handle your tomatoes well after harvest and after they get to the market.

**Wanja:** I think that, if I follow all that you have told me, I will be exporting my tomatoes to other countries soon!

**Mr. Karani:** Yes, but just remember it begins with having a healthy crop before harvest.

**Maina:** I think that what we need to remember to have a healthy tomato crop is this: after harvest we should wash them with a sanitizing agent, and sort them according to the ripening stage and size, and eliminate the injured ones. We then pack them into appropriate containers like plastic crates to avoid bruising and protect them from extreme weather like heat or rain during transport. Finally, we offload them carefully into a shaded area at the market.

**Mr. Karani:** That is a very good summary, Maina. One last thing: please remember that all packing crates should be cleaned and sanitized at the end of each harvest and market day to prevent disease organisms from accumulating and infecting healthy fruit picked the next production day. You can use the water and chlorine bleach to rinse, and air them to dry.

Now let’s see both of you put that into practice right now before I leave.

**Wanja:** If I am helping you harvest and package your tomatoes today, Maina, you must do the same for me tomorrow!

**Maina:** Of course, Wanja, but I thought you would do that as a gesture of appreciation as I allowed you to come and learn about packaging tomatoes.

**Wanja:** Don’t even remind me that, thanks to you, I did not sell toma ...

**Mr. Karani:** (Interjecting) … Ladies, I have other farmers to see. If you do not need my help …

**Wanja:** Oh, sorry …

**Maina:** Yeah, sorry, Mr. Karani. Wanja, you pick the pink and red ones, and I will pick the green ones.

**End of drama**

**NARRATOR:** You have been listening toa drama on packaging tomatoes for the market. Remember, you too can get a good price for your quality tomatoes like farmer Maina if you grow, harvest, and package your tomatoes the right way. You can’t overemphasize the importance of taking care when handling tomatoes between harvest and transport to the market. In fact, about half of the cost of tomato production is in the grading, storage, and packing of the products.

Goodbye until next week.

## Acknowledgements

Contributed by: Winnie Onyimbo, Trans World Radio Kenya

Reviewed by:

**Sources of information**

Interviews:

Dr. Jane Ambuko, Horticulturist/Post-harvest expert.

Maina Ngoliba, Thika, Kenya.

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