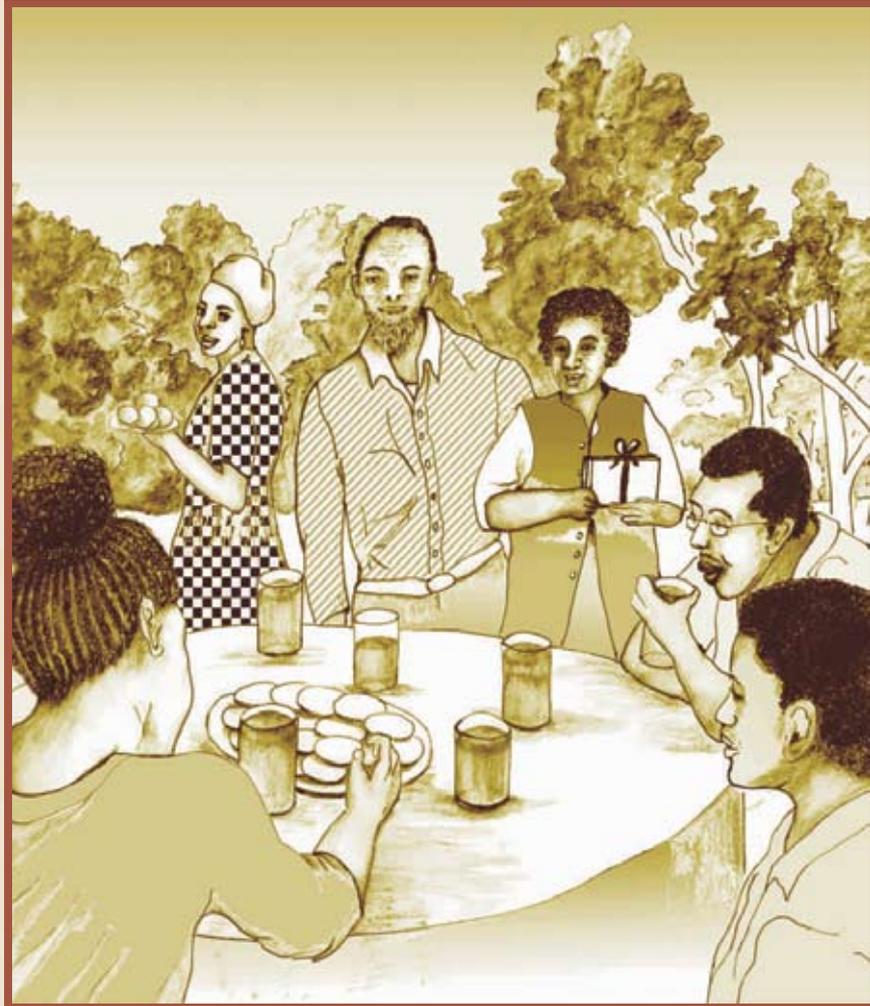


Scene Ten



Friday evening

Scene Ten:

Friday evening

Place:

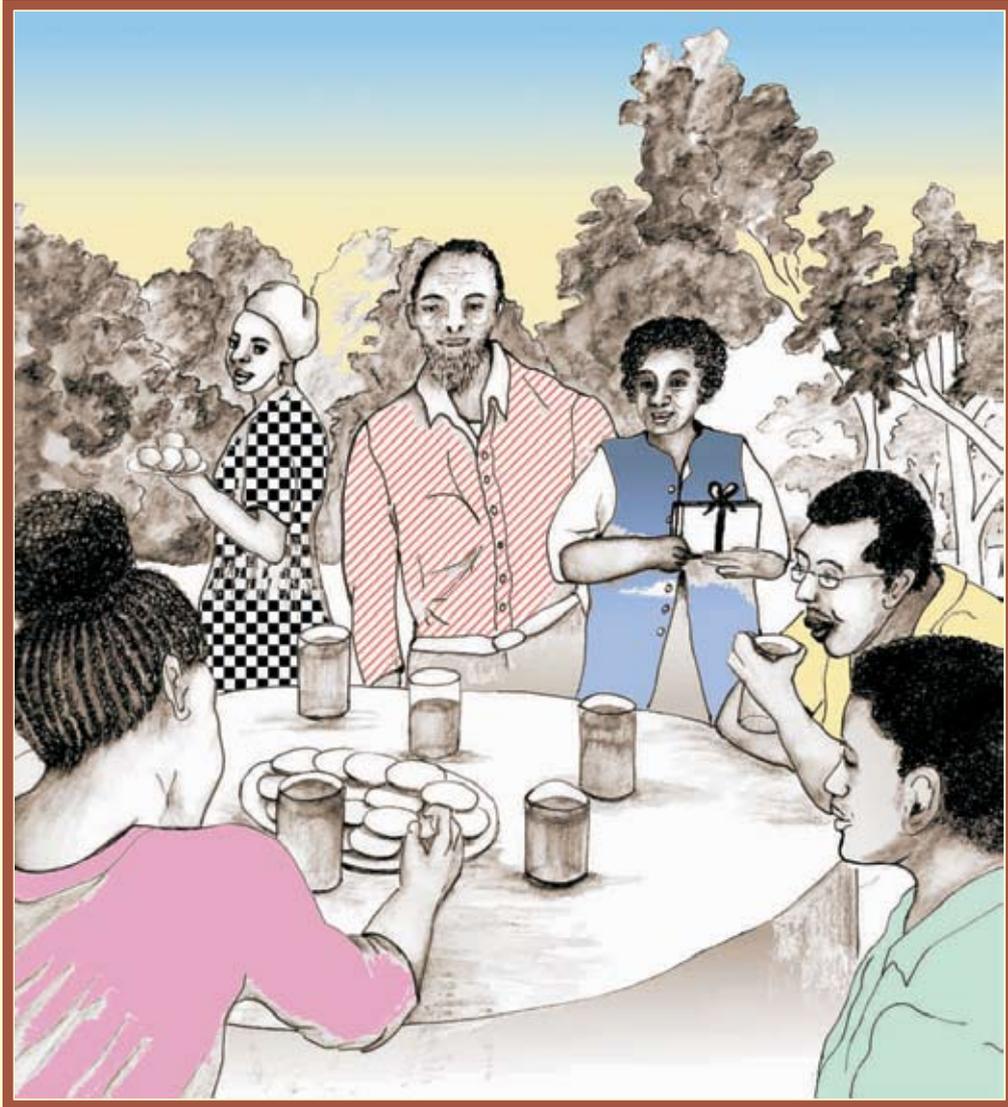
Home

Characters:

Efia, Ekow, their parents and grandparents

Situation:

The family is sitting in the garden



Efia, Ekow, their parents and grandparents in the garden at home
Cassava dishes



Scene Ten:
Friday evening

Place:
Home

Characters:
Efia, Ekow, their parents and grandparents

Situation:
The family is sitting in the garden

(Ekow and Efia are sitting in the garden with their parents telling them all about tissue culture. Their father works for a PGR centre and he is impressed by their knowledge of tissue culture.)

Ekow:

Dad, do you culture a lot of varieties of plants at work?

Father:

Son, the place where I work is called a PGR centre. We do not culture plants, but we collect and conserve the germplasm of PGR for the local area. We characterize, evaluate and document PGR under conservation. We encourage the utilization of the conserved resources by appropriate users, such as plant breeders, researchers and farmers. We serve as a central agency for the introduction and exchange of PGR. We also carry out research on any problems that may arise from any of the above objectives.

Efia:

This sounds complicated. Our teacher explained it in a simple way. Anyhow, maybe you can take us there one day.

Father:

Yes, when you have understood the seriousness of conserving plant genetic resources I will take you and explain what we do.

(There is some noise near the front door. Grandma and Grandpa are walking in. Grandma has a big package in her hands. The kids run to the door to greet them.)

Ekow and Efia:

Hello Grandma! Grandpa!

Ekow:

What did you bring us Grandma?

Grandma:



Ekow



Father



Efia



Father



Ekow

Diseases affecting cassava

BACTERIAL

Bacterial blight
Bacterial leaf spot
Bacterial stem gall
Bacterial stem rot
Bacterial wilt

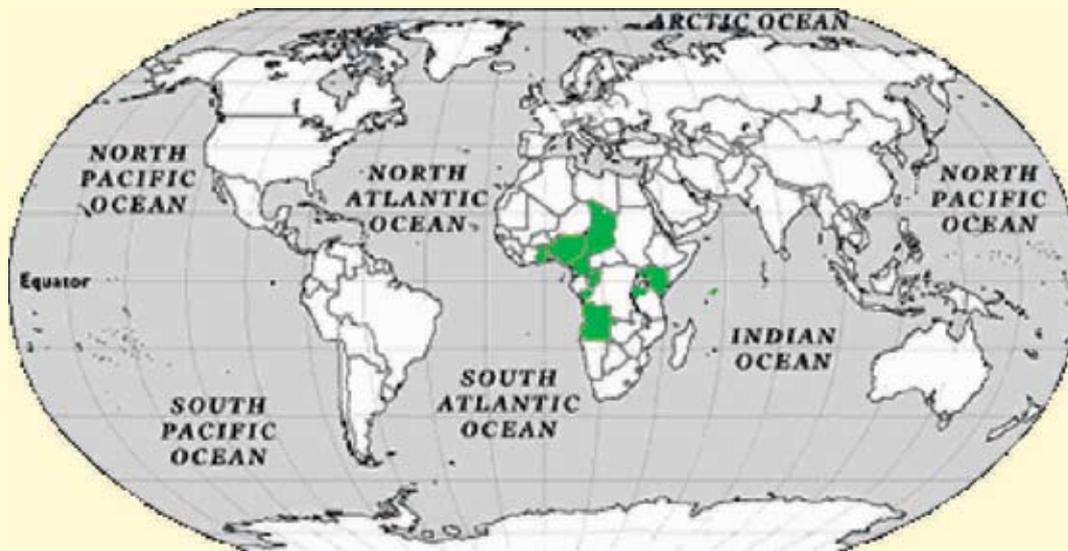
VIRUS

African cassava mosaic
Cassava common mosaic
Cassava frog skin
Cassava green mottle
Cassava green mottle virus
Cassava symptomless infections
Cassava vein mosaic
Indian cassava mosaic
Witches' broom

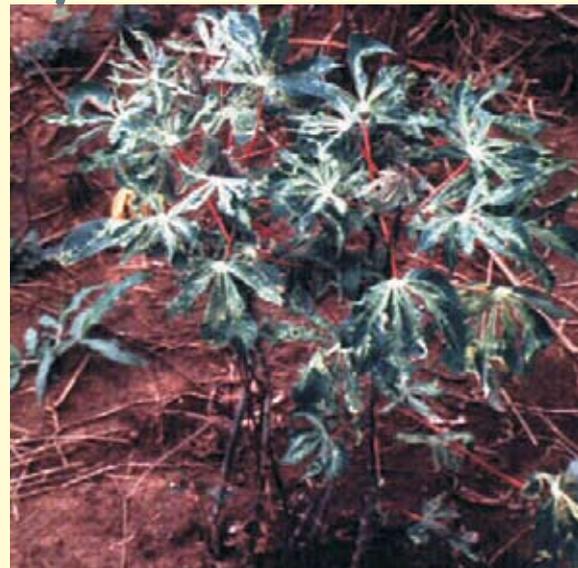
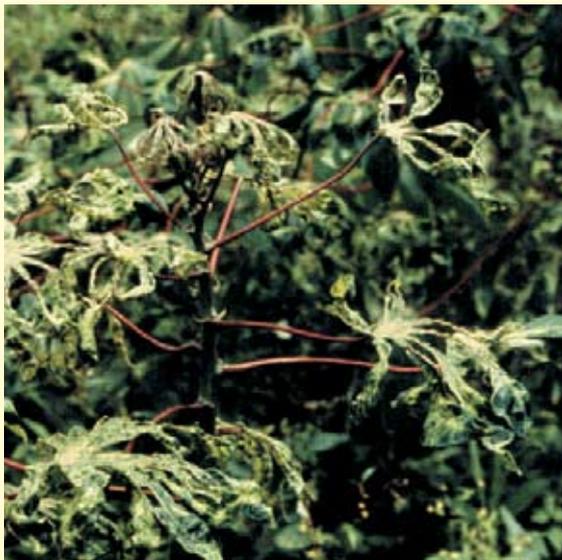
FUNGAL

Armillaria root rot
Black root and stem rot
Blight leaf spot
Cassava ash
Concentric ring leaf spot
Rust

African cassava mosaic distribution in Africa



M. Esculenta affected by African cassava mosaic



Source: <http://gemini.biosci.arizona.edu/viruses/acmv/index.htm>

I brought you a cassava sweet. Your Grandpa liked it so much, I thought I should bring some for you too.

Efia:

There you go, another recipe for the good old cassava!

Grandma:

Well, Efia, you are right, you can do so many things with cassava roots. These days there are so many varieties, but I still miss some of those cassava roots we used to get. I think they have all been lost as we couldn't keep them alive when we had problems with some cassava diseases.

Father:

Mother, we have not lost the varieties. We just don't grow them all at all times. Most of them are stored in gene banks where you can get them if you want to grow them.

Efia, did you learn about gene banks in your biology class?

Efia:

Yes, Dad. Our biology teacher mentioned them briefly to us when she talked about plant genetic resources and conservation.

Mother:

In that case, are you going to ask her to talk about them in more detail in your next class?

Efia:

Yes, Mum, we will. I am sure she will be very happy to tell us all about them.

Mother:

Then you can tell your grandparents all about gene banks the next time they visit us.

Father:

Come on, it is time for dinner. I can't wait to eat the cassava sweet that you brought mother!

Grandma:

OK, But please make sure to leave some for the children. *(Laughs)*



Scene Eleven



Monday morning

Scene Eleven: Monday morning
Place: On the way to school
Characters: Efia and Ekow
Situation: Efia and Ekow are talking while walking to school



The concept of conservation is very important for sustainable security... I think I would like to be a conservation specialist...

Plant engineer?

I'd like to know about genes. I think I will become a geneticist

I would like to be able to change things to make farmers lives better... what can I be?

Extensionist?

Biologist?

Dene

Dalila

Hakika

Dhakiya

Scene Eleven:

Monday morning

Place:

On the way to school

Characters:

Efia and Ekow

Situation:

Efia and Ekow are talking while walking to school

Efia:

Ekow, what would you like to do when you grow up? Do you think you might become a plant specialist?



Efia

Ekow:

I like all these fine details about how things work, so I could become an engineer, maybe a plant engineer; someone who understands the mechanisms that make plants grow well, reproduce and give good food. What would you like to learn when you finish school?



Ekow

Efia:

I would like to learn more about finding ways to save all the varieties of plants for future use.



Efia

Ekow:

You mean you want to become a conservation specialist?



Ekow

Efia:

Well, not a conservation specialist without a specific conservation purpose. I would like to conserve things in such a way that what is conserved will become useful in the future.



Efia

Ekow:

You mean like Grandma wanting to see the cassava she used a long time ago?



Ekow

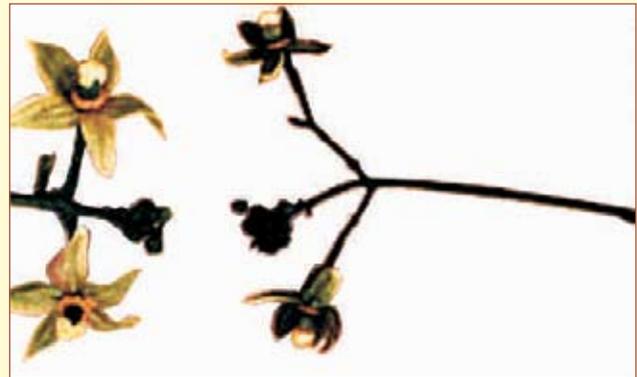
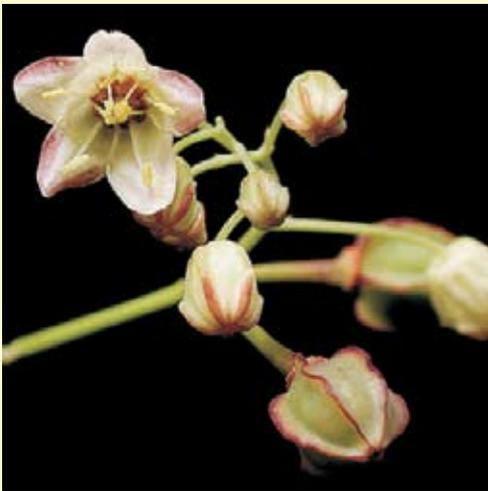
Efia:

Ekow, some things are saved for future generations to be able to just look at them. However, old varieties may provide new information in the future. There is always good use for things that are saved. The cassava that Grandma remembers grew well under unfavourable conditions such as drought, but died due to some disease. So, if we find the drought resistant variety in the gene bank and crossbreed it with another cassava variety that is disease resistant, maybe we would be giving a big gift to someone who cultivates cassava in dry-lands.



Efia

Cassava flowers



*Differences in flower discs
can be used as markers*



*Differences in shapes, sizes and designs of cassava
fruit can be used as a marker trait*

Review: Gene flow between cassava, *Manihot esculenta* Crantz and wild relatives
Nagib M.A. Nassar

Ekow:

Ah! This is why you are my big sister and I am your little brother. You always think big.

**Efia:**

Well, we may be in the same class, but I am older than you and also bigger than you.

(Efia puts her right hand on Ekow's head to show him that he is shorter than her and Ekow shirks and moves away from her. Efia compliments him by saying.)

**Efia:**

Ekow you are the smartest and brightest between the two of us.

Ekow:

But that is because you didn't join school as early as I did. Anyway I think you are the best sister ever.

**Efia:**

Thank you, Ekow. Now, we must talk to our biology teacher. Don't forget.

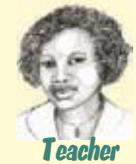
**Ekow:**

OK, let's go.

(Both walk towards the biology teacher's room.)

Teacher:

Efia, Ekow, good morning. What do you have on your minds?

**Ekow:**

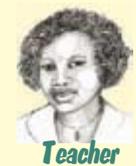
Our grandmother visited us this weekend and brought us a cassava sweet. We told her all about plant tissue culture and how it is possible to have good, healthy cassava roots, but she was saying that the old cassava she had a long time ago is no longer available and that she misses it now.

**Efia:**

My father said that those cassava varieties were not all lost. Some of them are conserved in gene banks. So we would like to know more about gene banks and about saving old cassava varieties. We would also like to know how people recognize and identify the different varieties after storage.

**Teacher:**

It is nice to know that you both talk about science at home and that your parents encourage you to know all about these things. Let me see what the plans are for the biology class this week and then I will announce how and when we can talk about gene banks and other related topics. See you later in the classroom.

**Efia and Ekow:**

Thank you. See you later.



