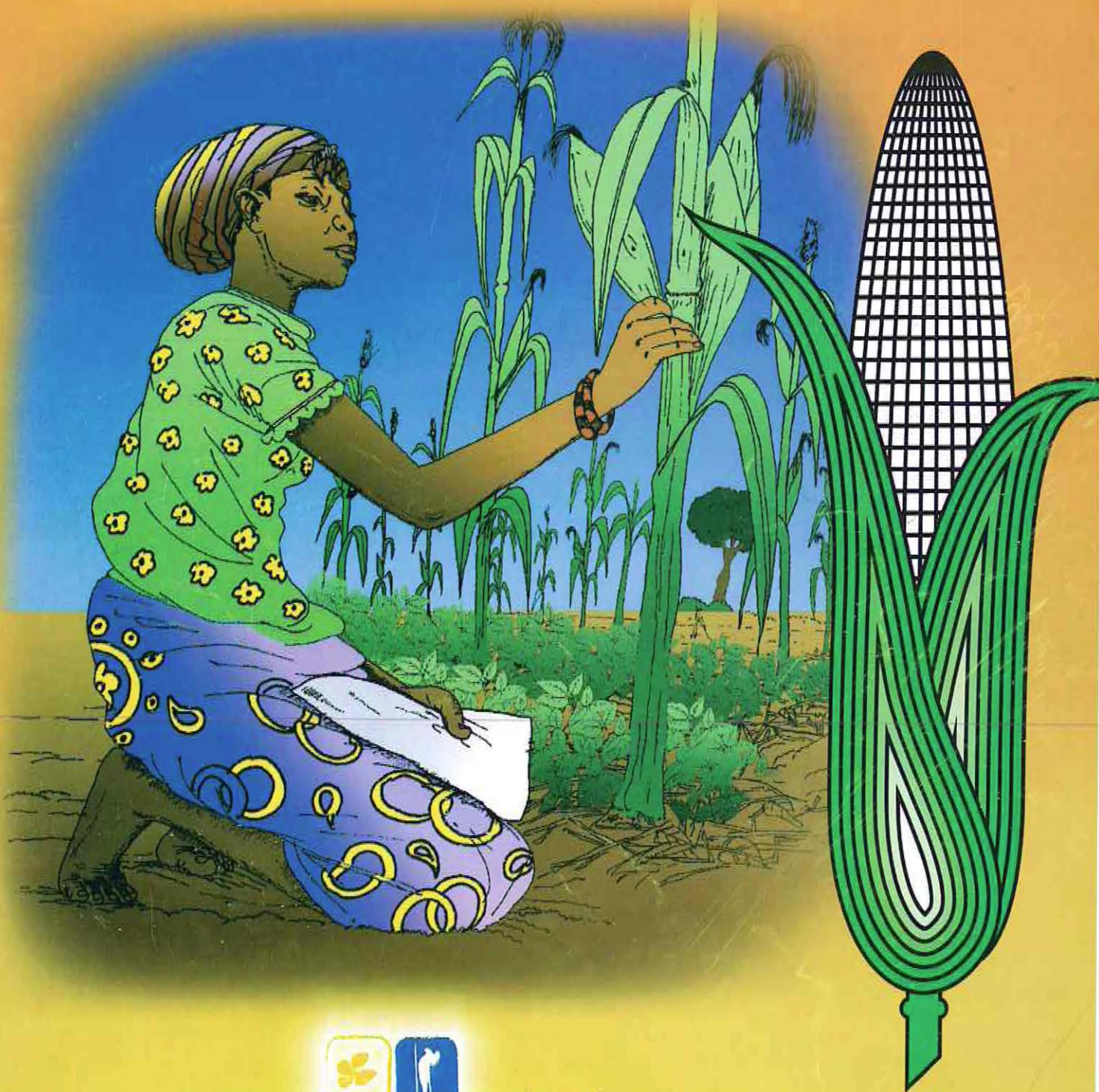


# Push-pull Improving Livelihoods



**icipe**

*African Insect Science for Food and Health*



MAMA JANE'S LIFE HAS IMPROVED AFTER ADOPTING PUSH-PULL. HER WOMENS GROUP WANTS TO KNOW HOW SHE DID IT.

Mama Jane should share with us her secrets to success. Since the past three harvest seasons she has become wealthier and healthier.

Oh yes, even her crop seems to be happier. What have you been up to?

Yes, Mama Jane. Share with us the secrets to your success!



Well, it all started one Saturday afternoon when mama Rose came visiting me...



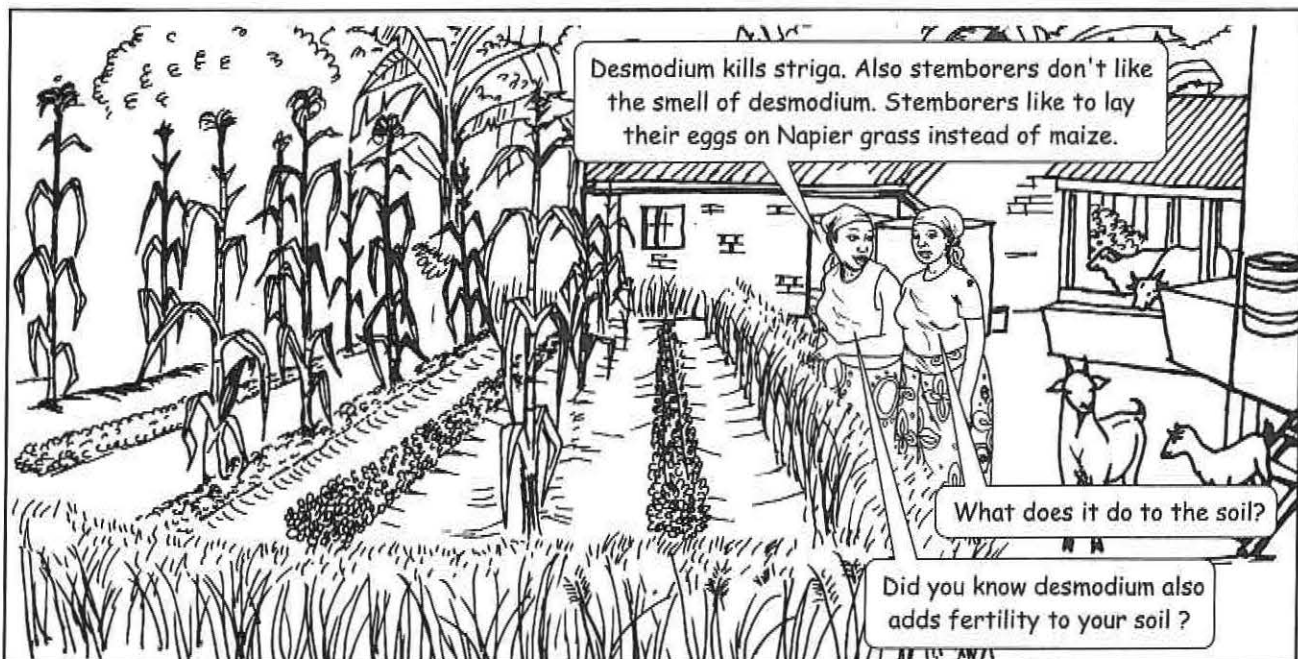
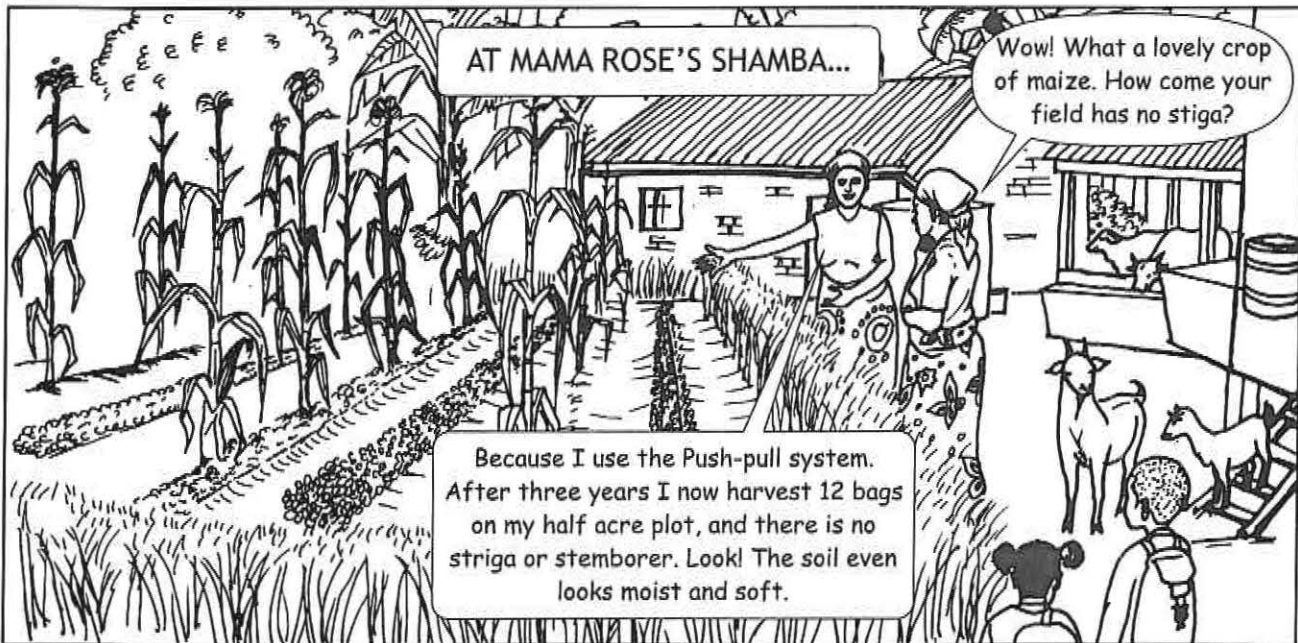
Mama Jane, What is the problem?

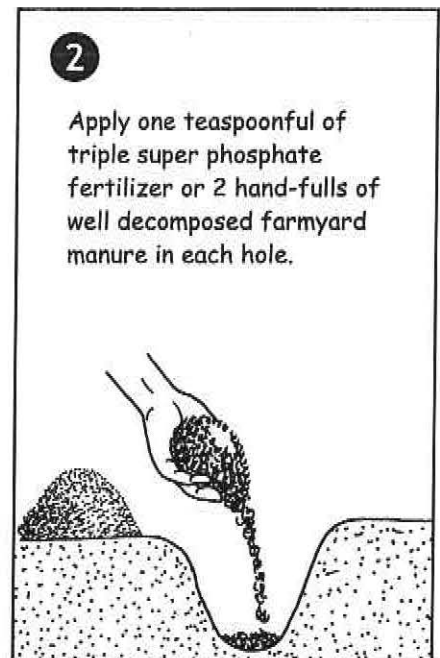
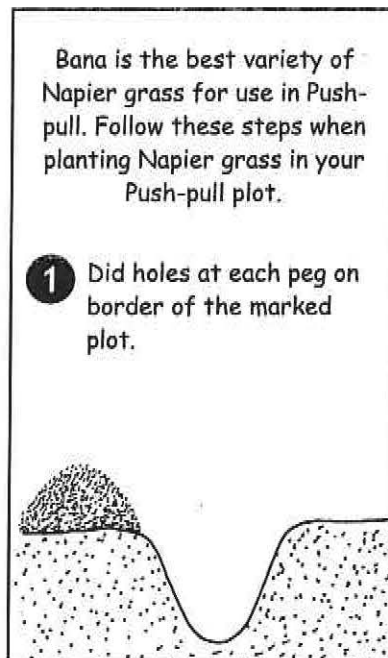
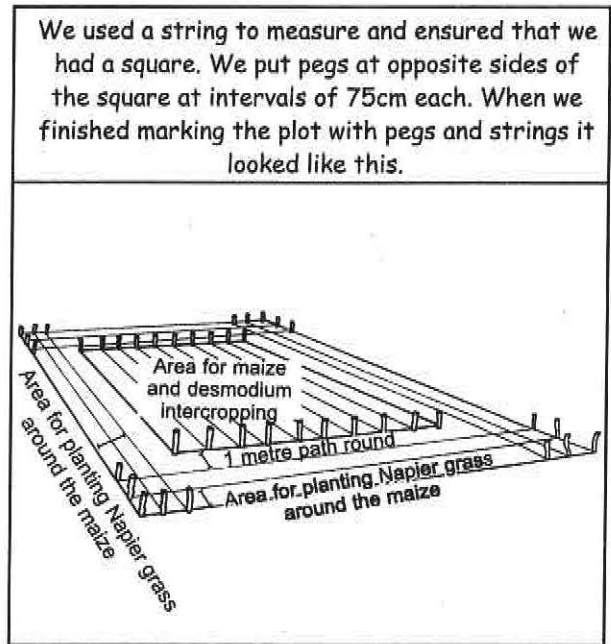
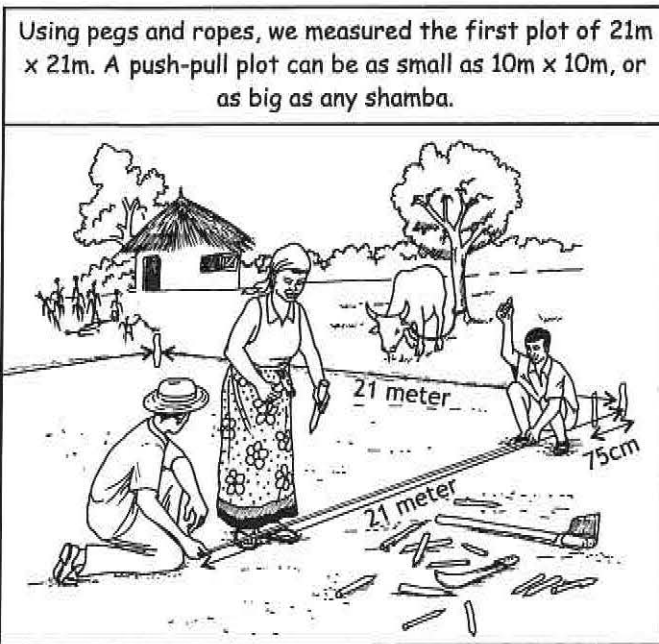
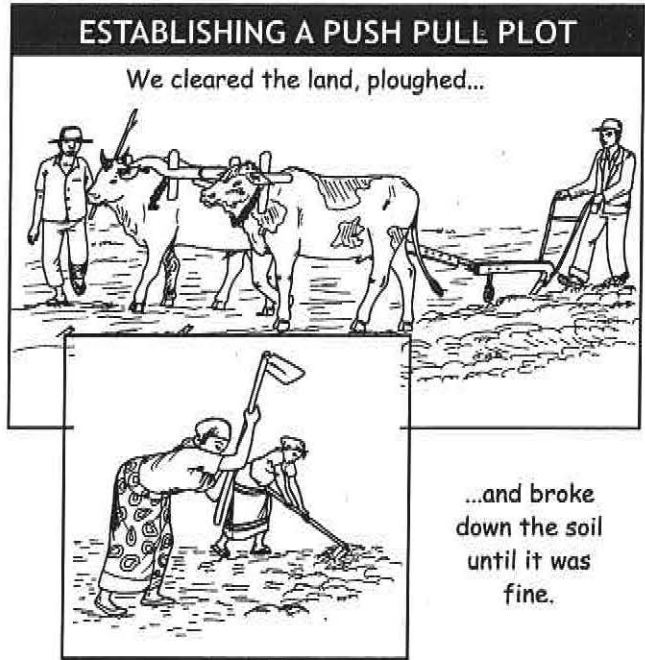
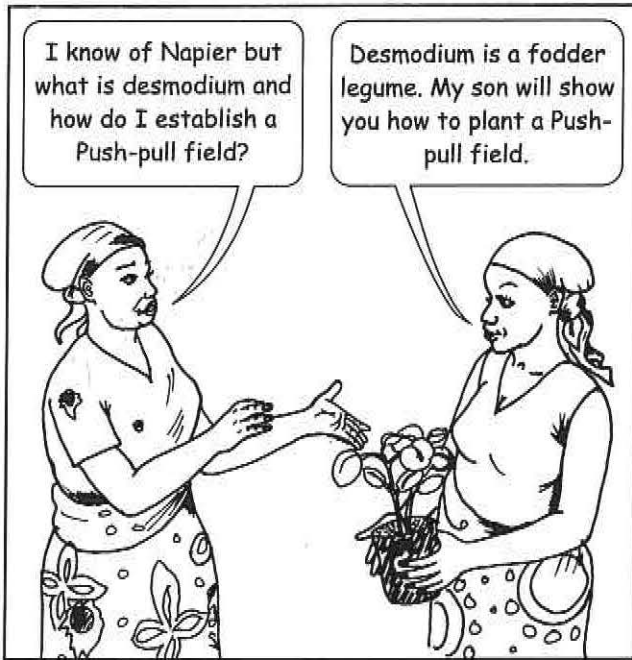
My problems are "Kayongo" (Striga) and stemborers. They destroy my crops every season.

I can see that the poor soil is also affecting your crop

Look at your maize plant. Striga has attached itself to the roots sucking away the nutrients for the plant. Stemborers are also damaging the maize.

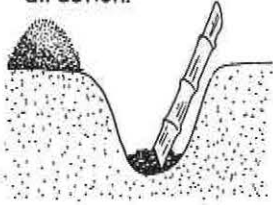
Striga and stemborers may destroy up to 100% of your maize crop. Haven't you heard of the Push-pull farming system?



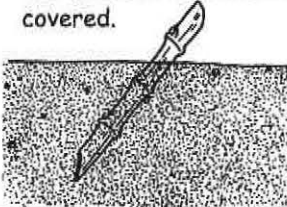




- 3** Place a three node cane into each hole at an angle of 30° to 40° all facing one direction.



- 4** Cover with soil ensuring that two nodes of the cane are well covered.

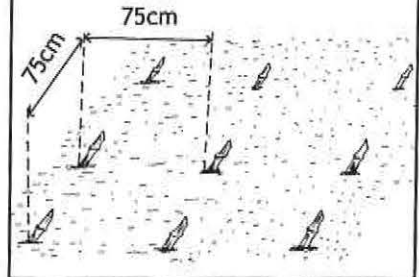


### AVOIDING NAPIER GRASS DISEASE

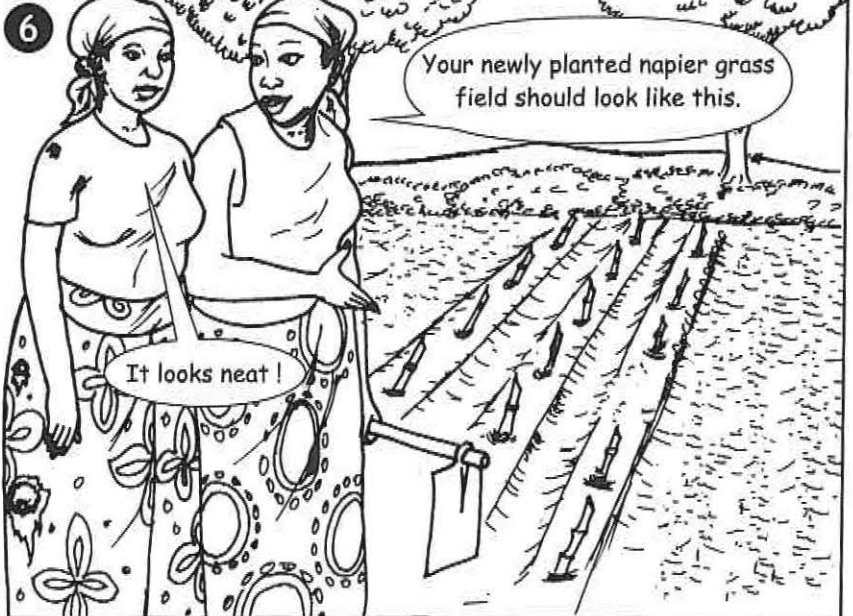
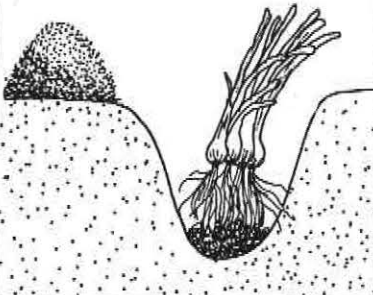
Select healthy Napier grass for planting. Do not plant Napier grass that has stunt disease.



- 5** Repeat steps 1 to 4 for the second and third rows, ensuring that the rows are 75cm apart and 75cm between the plants within the rows.



- 6** If you are using root splits, place them upright into the planting holes and cover with soil.

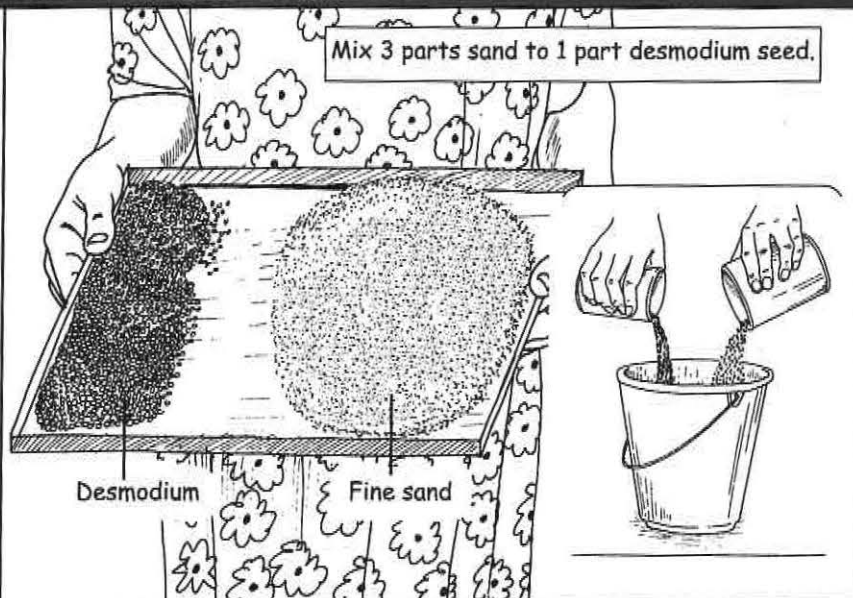


### MAMA JANE CONTINUES TO EXPLAIN TO THE GROUP . . .

Next, we planted desmodium. We mixed 300g of silverleaf desmodium seed with fine sand; one part desmodium to two parts dry sand.



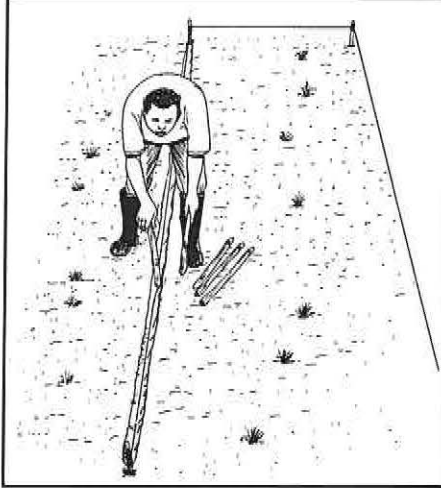
Mix 3 parts sand to 1 part desmodium seed.



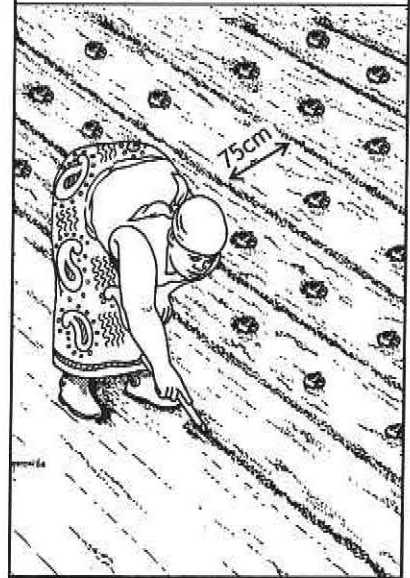
We drilled desmodium in the furrows at 75cm row-to-row distance.



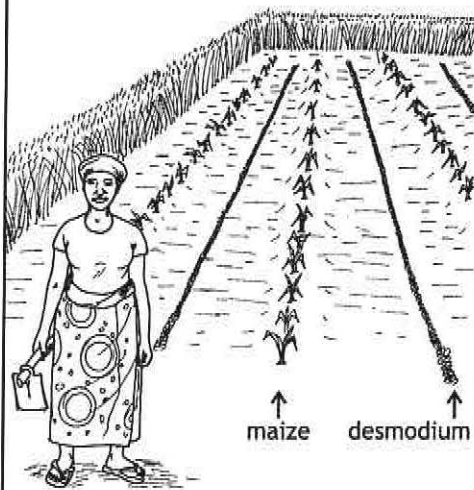
Drill fertilizer or farmyard manure along furrows, mix with soil using a stick, without covering or disturbing the furrow.



We planted maize between desmodium rows.

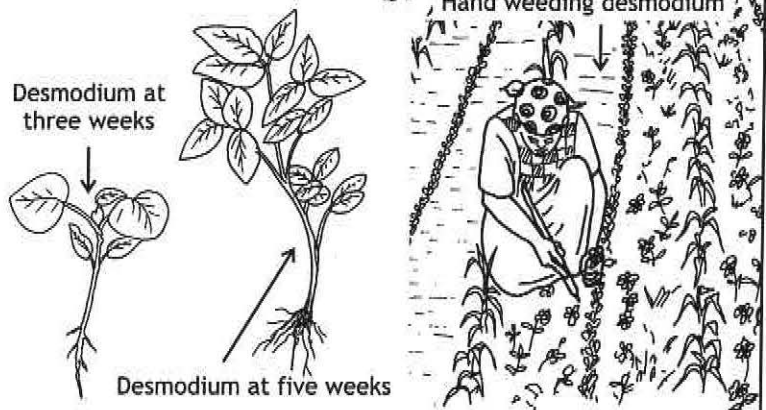


After one week I noticed that my maize crop was doing well.



### WEEDING AND CROP MANAGEMENT

Early weeding is very important for the successful establishment of a Push-pull plot. We carried out the first weeding when maize was 3 weeks old, and second weeding when maize was 5 weeks old. It is important to distinguish between desmodium and weeds.



My first maize harvest was 3 bags from the 21m x 21m plot.



For the past three years I have harvested 12 bags each season from my half acre plot.



AT MAMA JANE'S SHAMBA, 4 MONTHS AFTER PLANTING PUSH-PULL. A DAIRY FARMER CAME CALLING

Greetings ladies! Mama Jane could you sell me some Napier grass from your shamba?

No way Mr. John I can't do that.

Actually you can!

Just harvest the Napier one row at a time, starting with the inner row. Give the harvested row time to grow before harvesting the next row.



Why is Mr. John interested in the Napier?

It is to feed his dairy cow.



I will buy a dairy cow. I now have enough Napier to feed one.



When I finally bought my cow.

This is good progress! Feed it on desmodium too. It will increase milk production. Mix three buckets of Napier with one bucket of desmodium.





**TWO WEEKS AFTER FEEDING THE COW ON DESMODIUM NAPIER MIX**

Now I am able to sell more milk.



We may now proceed to my shamba I will show you how to harvest desmodium.



You harvest desmodium seeds for future use or for sale. Wear polythene over your clothes to prevent the pods sticking to you.



Thresh desmodium seeds on a stone using an old rubber shoe.



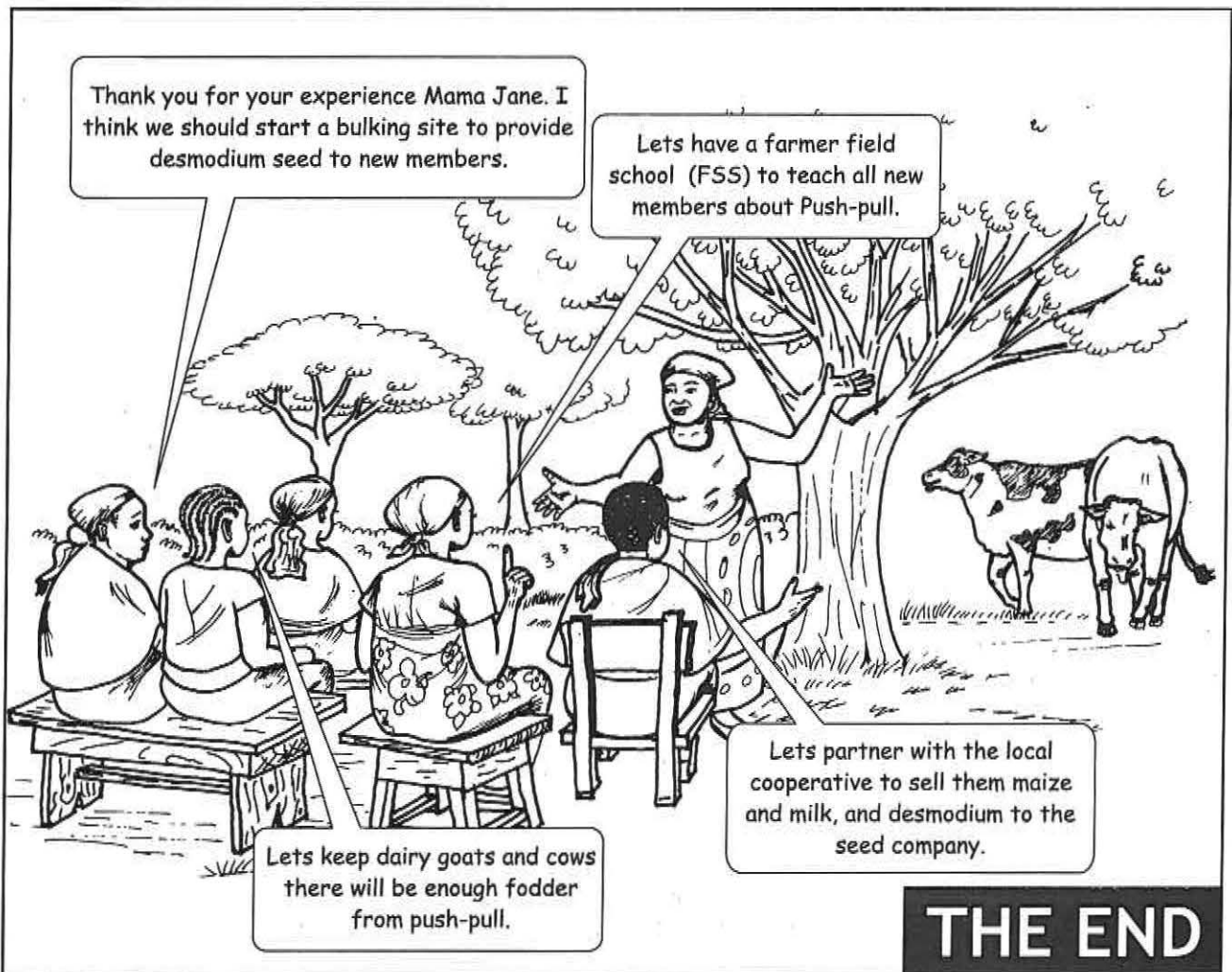
Winnow the threshed seeds.



Harvest desmodium after harvesting maize from the field. During the first season do not harvest desmodium until it has established well.







ICIPE's mission is to help alleviate poverty, ensure food security and improve the overall health status of peoples of the tropics by developing and extending management tools and strategies for harmful and useful arthropods, while preserving the natural resource base through research and capacity building.

Copyright © 2007 International Centre of Insect Physiology and Ecology. All rights reserved.

Correct citation

ICIPE. 2007. Push-pull Changing Lives. International Centre of Insect Physiology and Ecology, Nairobi, Kenya.

ISBN 92 9064 194 X

Editors: Z. R. Khan, J Pitchar (ICIPE, Kenya)

Storyline, Illustrations, Design and Layout: Skyward Marketing Ltd., Nairobi, Kenya

**For more information, contact:**

Director General  
International Centre of Insect Physiology and Ecology (ICIPE)  
P.O. Box 30072-00100 Nairobi, Kenya  
Tel: +254 (20) 8632000  
Fax: +254 (20) 8632001, 8632002  
Email: [icipe@icipe.org](mailto:icipe@icipe.org)

or

ICIPE – Mbita  
P.O. Box 30, Mbita  
Suba District, Kenya  
Tel: +254 (59) 22217/18/95 Fax: +254(59)22190

or

Director  
Kenya Agricultural Research Institute  
P.O. Box 57811 Nairobi, Kenya  
Tel: +254 (20) 4183301-20  
Fax: +254(20)4183344  
Email: [resourcecentre@kari.org](mailto:resourcecentre@kari.org)

or

Centre Director  
Kenya Agricultural Research Institute  
P.O. Box 450  
Kitale, Kenya  
Tel: +254 (54) 20108

or

District Agricultural Officers

or

Scientific Director,  
Rothamsted Centre for Sustainable Pest and Disease Management  
Rothamsted Research,  
Harpenden, Herts., AL5 2JQ,  
United Kingdom  
Tel: +44 (0) 1582 763133 x2320  
Fax +44 (0) 1582 762595