TWO WHEEL TRACTOR NEWSLETTER _ MARCH 2013.

Two wheel tractor for haymaking?

An American colleague has made enquiry regarding haymaking attachment options for a 2WT. This colleague is associated with an NGO in Kenya that is looking into this option.

Apparently, there are Kenyan nationals who have small businesses cutting and selling hay in that country. Tall grass and other forage is cut by either sickle or scythe. The cut material is then manually raked into windrows and then picked up and pressed into small bales. These bales are then on sold to livestock farmers for animal feed.

However with all of the operations being performed manually, there is a small upper limit on how much grass can be cut and baled daily. I was asked was there a low capital cost mechanical option for this haymaking business which may perform most of the tasks.

A search through the Internet has revealed this Chinese 2WT hay cutting unit (see picture). It consists of a sickle bar mower of around 1.5 metres wide mounted on the front, with a hand operated rake on the rear. Cost at this time is unknown.

Two wheel tractor with sickle bar mower and hay rake
These options below may offer alternatives.

Rotary mower for two wheel tractor

A grain reaper for a 2WT

Scott Justice has brought to my attention the recent publication of a report from iDE and CIMMYT entitled:

Study into the Commercialization of Selected Agricultural Machines in Bangladesh
This can be downloaded at: (note it is a 4.7MB file)
https://dl.dropbox.com/u/101834755/Study%20Report_Final%2012_12_12.pdf

I found this Bangladesh report to be especially interesting. It is well worth reading to gain an insight into the tortuous path that CA is taking in that country

Another by DAC and financed by CAVAC is at:
Research on Agro-tools Market Mapping and Analysis in Cambodia
This one is at:
https://dl.dropbox.com/u/101834755/Final%20Report%20Agro-tool%20Market%20Survey%207-10-11.pdf

This report (with limited reference to 2WT) gives an overall summary of the progress with farm mechanisation in Cambodia

Possibly there are have some flaws in the analyses but these reports bring an important look at local markets and machinery/mechanization in Asia.

==========

The Indian National Bank for Agriculture and Rural Development has outlined its broad policy on financing farm machinery in general, and 2WT in particular. This statement goes into the history of the 2WT in India and the reasons why it prefers to assist farmers with 2WT purchase, rather than other tractor types. This can be found at:

http://www.nabard.org/modelbankprojects/powertiller.asp

==========

The following paper by Brian Sims, Christian Thierfelder, Joseph Kienzle, Theo Friedrich and Amir Kassam has been brought to my attention.
It has been published by the American Society of Agricultural and Biological Engineers, based in USA. Details are set out below.

Development of the Conservation Agriculture Equipment Industry in Sub-Saharan Africa
Citation: Applied Engineering in Agriculture. 28(6): 813-823. @2012
Authors: B. G. Sims, C. Thierfelder, J. Kienzle, T. Friedrich, A. Kassam

Unfortunately, due to copyright restrictions, I cannot pass on to members the full text of the paper. If you require a copy, you will have to ask a colleague who is a member of ASABE to download a copy for you. Alternatively, you can download a copy for yourself at a cost of $US15.

I have read the paper, and it covers much of the same material that was discussed by Sims and Baudron in the publication 'Farm power and conservation Agriculture' that was featured in the October 2012 edition of the 2WT Newsletter. However the ASABE paper has much more detail.

==========

Ag. Eng. student project on disc openers for 2WT seed drill.

A final year Agricultural Engineering student, Mr. Sant Kumar Pratap of the University of Southern Queensland, Toowoomba, Australia has commenced this project in the Agricultural Engineering Dept. The DF-12 2WT with the ACIAR-Rogro seed drill unit was transported to Toowoomba last week along with several pairs of optional disc opener assemblies.

Sant is a Fijian national who is doing an Agricultural Engineering degree at University of Southern Queensland. He has a special interest in the project. A significant portion of Fijian agriculture is practised using animal traction, and 2WT may be an affordable alternative to many small area farmers in Fiji. The experience gained by Sant in this project may also be important for the introduction of 2WT technology into Fiji, as well as a practical project for his final year. The results can also be of value to assist in the overall development of disc opener technology for implements designed for 2WT.

The project is being supervised by Dr. Guangnan Chen, Senior Lecturer in the Agricultural Engineering Department. Guang also supervised the previous student, Mark Fraser who did the stress analysis study on the 2WT seed drill frame in 2008.

Mr. Sant Sumar Pratap and Dr. Guangnan Chen.

Some of the disc options (along with other items) that will be included in the project.

Note: Some of these photos are in low resolution to keep the file size small. Let me know if higher res. pictures are required. General comment is encouraged. Contact rjesdaile@bigpond.com or rjesdaile@gmail.com