

SAFE-World Project/Initiative Summary

Country: Paraguay

Project/Initiative Title: No Till MAG-GTZ Programme

Nos. farmers: 15800 – large farmers
750 small farmers

Hectares: 785,000 – large farms
4,500 small farms

Agro-Ecological Zone: III

Improvement types

1x	2	3x	4	5	6x	7	8	9
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Success and Limits to spread

Success	Limits
1b,3a,3c	3a

A. Key Impacts

A1 – Productivity

	Before/Without	After/With	% change
Maize	4000 kg/ha	8000 kg/ha	82%
Soya	2200 kg/ha	3600 kg/ha	122%

A2 – Impacts on natural capital

- ?? Increased water infiltration
- ?? Higher biological activity
- ?? Reduced erosion (from 20 t/ha to 0.6 t/ha)
- ?? Increased carbon sequestration

A3 – Impacts on local community (social capital)

The results for Paraguari indicate that investment in fertilizer and high green-mass producing green manure crops on small farms in the extremely degraded soil zones of Central Paraguay would be highly economic to the nation and to the small farmers

A4 – Impacts on households and individuals (human capital)

- ?? Labour demand on small farms declined (30-60 days/year)
- ?? Increase in net farm incomes - 35-90%
- ?? Returns to labour increase from \$16 to \$24 a day

A5 – Key changes in farm / regional system

50% reduction in fertilizer inputs in soya, 30% in maize
No till encourages biological pest control (ie Baculovirus in Soya) – Insecticide use is generally reduced. (under bad management herbicides may be increased but with good management decreased)

B. Types of Sustainable Agriculture Improvements

- Type 1: Better use of available renewable natural capital
- Type 2: Intensification of single sub-component of farm system
- Type 3: Diversify by adding new productive natural capital and regenerative components
- Type 4: Better use of non-renewable inputs and technologies
- Type 5: Social and participatory processes leading to group action for making better use of natural capital
- Type 6: Human capital building through training-learning programmes
- Type 7: Access to Finance
- Type 8: Add value by processing to reduce losses and increase returns
- Type 9: Add value by direct or organised marketing of produce to consumers

	Yes/No	Narrative
Type 1	x	Permanent no till with the use of cover crops and green manures and crop rotations
Type 2		
Type 3	x	Biological pest control
Type 4		
Type 5		
Type 6	x	Participatory technology adoption and development extension through farmer organisation Farmer to farmer extension
Type 7		
Type 8		
Type 9		

C. Key Lessons: Success, Spread and Constraints

C2 – Aspects of local/national context contributing to success

- ?? Appropriate knowledge was available in the region through research and development as well as farmers experiences
- ?? The same consistent message positive to No Till has generally been voiced by all sectors involved (public and private) without contradictions
- ?? No-Tillage has been the only conservation tillage technology recommended to farmers
- ?? There has been aggressive farmer to farmer extension through farmers associations
- ?? Publications with adequate, practical and useful information were made available to farmers and extensionists
- ?? There have been no forces against the system

C3 – Limitations preventing spread

- ?? Mainly just large farms adopting
- ?? Capacity of the extension service and the technical/knowledge transfer system

C4 – Policy issues

- ?? Latin American farmers have had to be very competitive in the global market as in general there are no subsidies

- ?? Agricultural schools and universities are still teaching conventional tillage (not sustainable in the tropics)
- ?? No-tillage has to be introduced across all institutions in the Ministry of Agriculture
- ?? Extremely rapid growth in the use of no-tillage technology from 20,000 ha in 1992 to 790,000 ha in 1999 in Paraguay

C5 – Scaling-up

Need:

- ?? Adoptive research and development in more regions
- ?? Credit to buy hand planters and seeding machines
- ?? Credit to buy seeds of green manure cover crops
- ?? More trained and properly equipped extensionists

D. Contact Point for Project/Initiative

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