GERMAN MACHINERY RING MODELS: EXPERIENCES AND LESSONS LEARNT

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Board member German Association of Machinery Rings
Agricultural situation in Germany during the fifties:

- Specialization in agricultural production
- Division of labour in agricultural value chains was increasing
- Industrialisation withdrew labour force from agriculture!
- New agricultural techniques had to replace labour force
- New technical developments became necessary
- New technical developments became expensive
- Inefficient machinery utilization in small scaled farms
- The answer was the idea of Machinery Rings
First Machinery founded in 1958 in Bavaria
12 Area MR Associations
approx. 230 local MR
approx. 192,000 Members
60% of farmers are organized
7.8 Mio. ha (65% of agricultural land)
1.5 Mrd. € annual turnover in 2015
3,000 employees
Main focus in West Germany
The smaller farms the more successful Machinery Ring
WHAT DOES MACHINERY RING NOT MEAN?

- Company with own machines for own profit

WHAT MEANS MACHINERY RING?

- Aggregations organized by the farmers themselves
- Common or individual investments and mutual aid
- Efficient management of mechanization on individual farms with modern technology
- Structure for regional common projects in value chains
- Canvassing projects with new business for extra income to the members (farmers)
- Organization of farm help
- Modern center of different services to the members with professional knowledge
- Proposals as a functions of regional frame conditions
- Office with modern technique of communication
- Non profit organization
INDIVIDUAL INVESTMENT
Farmer/Contractor as owner of machines

financing
maintenance
work

consulting
calculation
planning
organization
payment

Farmer as customer
Farmer as customer
Farmer as customer
Farmer as customer
GROUP/JOIN INVESTMENT
Different farmers as shareholders of machines

- Farmer as user
- Farmer as user
- Farmer as user
- Farmer as user

consulting

calculation

financing

maintenance

planning

organization

payment
VALUE CHAIN INVESTMENT
Different members in the value chain

Farmer as producer

Contractor

Farmer as producer

Factory as commodity buyer

Harvest

* Harvest and transport can also be mechanized by factory itself

Transport

Factory as commodity buyer

consulting
calculation
planning
organization
payment
PLANNING COMBINES MR HARBURG

- 36.000 ha of arable land
- 22.000 ha land for cereales and rape
- Average size of fields: 7 ha
- Available harvest days with moisture under 16%: 12
- Average harvest hours per day: 12
- Average performance of a combine in that area: 2 ha per hour

Result:
- 140 – 150 hours or 280 – 300 ha per combine + harvest periode
- Approximately 75 combines necessary with 250 HP and 6 mtr working width
- Investment 15 Mio €
RULES AND TRANSPARENCY

- Board only of farmers
- Professional manager as employee
- Annual meetings for rights and obligations
- Uniform price list (calculated on the threshold of utilization)
- Cashless payments
- Exhibition and excursions
- Practical screenings with new techniques and techniques from local farmers
- Personal and/or group consulting
- Solutions for finance
- Insurance services
# Budget Machinery Ring

**1,000 Members, Turnover 15 Mio €/year, six employees at the office**

<table>
<thead>
<tr>
<th>Earnings</th>
<th>€/year</th>
<th>Expenses</th>
<th>€/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership fee</td>
<td>120,000</td>
<td>Wages</td>
<td>250,000</td>
</tr>
<tr>
<td>Commission</td>
<td>300,000</td>
<td>Social insurance</td>
<td>100,000</td>
</tr>
<tr>
<td>Others</td>
<td>50,000</td>
<td>Taxes</td>
<td>50,000</td>
</tr>
<tr>
<td>(Subsidies)</td>
<td>?</td>
<td>IT</td>
<td>10,000</td>
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<tr>
<td></td>
<td></td>
<td>Education</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marketing</td>
<td>5,000</td>
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<tr>
<td></td>
<td></td>
<td>Office</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Postage, Telephone</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Car, Traveling</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LMR, BMR</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>470,000</strong></td>
<td><strong>Total</strong></td>
<td><strong>470,000</strong></td>
</tr>
</tbody>
</table>
MACHINERY RINGS IN VALUE CHAINS
Steps of value chains in agriculture

Where can Machinery Rings give support?

Design
Production
Selling
Delivering
Support
MACHINERY RINGS IN VALUE CHAINS
Examples for value chains supported by Machinery Rings
MACHINERY RINGS IN VALUE CHAINS
Examples for value chains supported by Machinery Rings

- Sugar beet production
- Biogas production for electric power and heat
- Cereal grains
- Potatoe production for consumption or plant starch
- Milk production
- Industry/Municipal services with agricultural equipment
## MODELS OF MECHANIZATION

<table>
<thead>
<tr>
<th>Form of organisation</th>
<th>Number of farmers</th>
<th>Legal commitment</th>
<th>Consulting demand</th>
<th>Individual freedom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental machines</td>
<td>&gt; 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery Ring</td>
<td>&gt; 200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor</td>
<td>20 - 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate machines</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate machines</td>
<td>3 - 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arable/grasland cooperative</td>
<td>2 - 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value chain cooperative</td>
<td>2 - 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partly fusion</td>
<td>2 - 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm fusion</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperative</td>
<td>&gt; 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm management providers</td>
<td>&gt; 5</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
MR IN RELATION TO OTHER MECHANIZATION MODELS

Cooperatives
Partly fusions
Contractors
Arable cooperatives
Grassland cooperatives

Rental machines
Farmer

Farm fusions
Farmer

Corporate machines
Farmer

Value chain cooperatives
Farmer
COSTS OF COMBINE MR VS. OWN MECHANIZATION

Costs in €/ha

Operation grade in ha

Own costs combine
MR price combine
EXPERIENCES AND LESSONS LEARNT

- Machinery Rings in Germany are very successful.
- Farmers must take the initiative to establish MR.
- Motivated and well-trained staff is needed.
- **Excellent MR-Manager!!!**
- Clear and transparent rules are important.
- Economical and reliable business every day will convince farmers.
- Farmers like to work together.
- MR is a flexible response for modern mechanization and organization to changing agriculture challenges.
MACHINERY RINGS IN AFRICA

What is our idea?
REQUIREMENTS FOR MACHINERY RINGS IN AFRICA

- Farmers must be convinced of this idea !!!
- Agricultural entrepreneurs !!

- Possibilities of education
- Good regulatory framework
- Good infrastructural conditions
- Liquid markets
- Access to markets of seeds, fertilizers, pesticides, techniques with after sales support
- Reliable financing system

- Excellent Manager, excellent Manager, excellent Manager!
MACHINERY RINGS IN AFRICA
What is our idea?

- Evolution of exemplary Machinery Rings in different countries including models with collective mechanisation, contractors, farmers associations etc.
- Multifarious agricultural region
- Blending model with EU, German state and other named partners
- Support with german Machinery Ring managers
- Period at least three years
- Registration of basic parameters (education, production, technology, marketing)
- **Identification of demand for mechanization**
- Concepts for education, technology, financing
- **Working together with African MR-Manager!**
WHO CAN BE PARTNER OF MACHINERY RINGS IN AFRICA?
How can they give support for success?

- Agricultural education, applied research → Development aid organizations
  → National states
  → National farmers union etc.
- Infrastructure → National states
- General legal conditions → National states, EU
- Liquid markets and storage → National/International traders
- Technical support → Agricultural machinery industry
- Transparent subsidies for investment → National states
- Transparent allocations of credits → World bank or others?
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EXPERIENCES AND LESSONS LEARNT

Thank you for your attention!

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