Discussion document:

Strategic Growth Potential in the Agricultural Equipment Market in China

Hong Kong / Shanghai / Munich, January 2014
Content

1. Preliminary remarks 2

2. General trends for agricultural equipment in China 5

3. Customer preferences for agricultural equipment 9

4. Competition and M&A activities in the agricultural equipment sector 16

5. Strategic options from MelchersRaffel view 22

Appendix 27
1. Preliminary remarks and Management Summary
Preliminary Remarks

- This paper intends to share the most recent trend and buying behavior of agricultural equipment in China and our perspective on the opportunities present in this sector.

- The data shown in this paper is for reference only to understand the general trend and competitive environment, whereas some of the numbers being best estimates. Examples given here are selected for illustrative purpose and should not be considered as an exhaustive list.

- MelchersRaffel would be glad to discuss strategic impacts and strategic options with interested management of agricultural equipment companies.
Driven by multiple triggers and influencing parameters, the Chinese market for agricultural equipment will see significant growth rates in the medium and long term future.

Plus, the mechanization rate is pushed also with subsidies by government.

Client demand in China sets a high priority for productivity, quality, brand of equipment and service, which allows European suppliers a good position in China.

Strategic Marketing for equipment is still underdeveloped in China, as most of the clients still rely on distributors recommendation. Again, a high potential for European makers with a sophisticated marketing approach.

Battle for market share is already intense in China, as many international and national players – from within and outside the industry – are aware of the potential and take over Chinese companies for increased market presence.

Besides a well designed and functioning organic growth strategy with aligned marketing, sales, service etc. elements, European equipment makers should look for partnerships in terms of acquisition or "network capital" with well established and suitable Chinese players.
2. General trends for agricultural equipment in China
In the past 20 years, China experienced a rapid growth in farming mechanization rate, the growth is expected to continue till catching up with the developed countries level.

Farming mechanization rate development in China, 1985 – 2020 target

% of mechanization

Source: Agricultural industry association of China; MelchersRaffel analysis
Apart from the drive in customers demand and economic development, government subsidies play a crucial role in further stimulating the equipment demand.

Subsidies provided by PRC central government on agricultural equipment purchases, 2004 – 2013

Bn RMB

On average, a farmer can receive 30% of the purchase price for agricultural equipment through government subsidies.

Source: Agricultural ministry of PRC government; MelchersRaffel analysis
First assessment across different aspects suggests that the Chinese agricultural equipment market has strong positive prospects.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Key factor</th>
<th>Growth impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political</td>
<td>The Chinese government constantly provides support for farmers regarding agricultural equipment purchases. The government focuses on the improvement of the agriculture mechanization rate, leading to strong demand and market growth.</td>
<td>++</td>
</tr>
<tr>
<td>Economic</td>
<td>China’s agricultural industry is viewed as security issue for the national economy. It is supported by the government and hardly influenced by economic fluctuations. The sustainable development of the agricultural industry ensures the demand and growth potential for agricultural equipment.</td>
<td>++</td>
</tr>
<tr>
<td>Social</td>
<td>As population is moving from rural areas to cities, and rural population is decreasing with a fast rate, this development is driving the demand for agricultural equipment and agricultural mechanization.</td>
<td>+</td>
</tr>
<tr>
<td>Technological</td>
<td>Light agricultural equipment still dominates the market, due to the special nature conditions of south China; overcoming the lack of matching connections between imported tractors and local supporting tools will open up a great growth potential.</td>
<td>+</td>
</tr>
<tr>
<td>Legal</td>
<td>Due to the subsidy policy, customers can only select products from government certified companies in order to get financial support, therefore to benefit from this policy local production is necessary.</td>
<td>+/-</td>
</tr>
</tbody>
</table>

Source: MelchersRaffel research

© Raffel GmbH Corporate Development All rights reserved. Proprietary and confidential.
3. Customer preferences for agricultural equipment
Due to the different climate and land conditions across the regions in China, customer's requirements and market size varies significantly.

Agricultural areas by region and agricultural equipment market share, 2012

North-west region:
- Crop type: Corn, potatoes and cotton
- Major equipment demanded: Heavy tractors and harvesters
- Machinery sale: 14% of total nationwide sales

North-east region:
- Crop type: Rice, corn, wheat and cotton
- Major equipment demanded: Heavy tractors and harvesters
- Machinery sale: 58% of total nationwide sales

South-west region:
- Crop type: Rice, sugar cane
- Major equipment demanded: Light agricultural equipment
- Machinery sale: 10% of total nationwide sales (84% growth rate from last year)

South-east region:
- Crop type: Rice, sugar cane and cole
- Major equipment demanded: Light tractors and light balers
- Machinery sale: 18% of total nationwide sales (34% growth from last year)

Source: MelchersRaffel research
Quality and price are the top 2 buying factors for farmers on selecting agricultural equipment, but brand and services are of great significance as well.

Key purchase criteria of agricultural equipment
% of respondents; N = 1,500

- Quality: 84%
- Price: 70%
- Brand: 67%
- Service: 40%
- Efficiency: 38%
- Promotion: 18%
- Appearance: 15%
- Comfortability: 11%

Source: Agricultural equipment survey (2010); MelchersRaffel analysis
Generally, 10 – 26% higher price of international machines compared to local machines

Price comparison of international machines vs. local Chinese machines

In RMB

<table>
<thead>
<tr>
<th>Power segment (horse power)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>John Deere</td>
<td>LOVOL</td>
</tr>
<tr>
<td>25-80 hp</td>
<td>50,210</td>
<td>41,300</td>
</tr>
<tr>
<td>45 hp</td>
<td>58,380</td>
<td>52,700</td>
</tr>
<tr>
<td>55 hp</td>
<td>76,780</td>
<td>67,880</td>
</tr>
<tr>
<td>65 hp</td>
<td>85,230</td>
<td>77,300</td>
</tr>
<tr>
<td>&gt;80 hp</td>
<td>165,900</td>
<td>131,500</td>
</tr>
<tr>
<td>135 hp</td>
<td>277,500</td>
<td>227,000</td>
</tr>
</tbody>
</table>

Price difference (%)

- 21%
- 11%
- 13%
- 10%
- 26%
- 22%

Source: MelchersRaffel research
In general, agricultural equipment users have high expectation on working efficiency, which aligns with decreasing labor resources and a growing trend for automation.

Key problems reported when using agricultural equipment
% of respondents; N = 1,500

- **Low working efficiency**: 43%
- **Low technology level**: 19%
- **Poor quality**: 18%
- **Low power level**: 18%
- **Others**: 1%

“With the help of the machinery, we are expecting to increase the production efficiency by a few times, but very often we need to spend time on checking and fixing small problems of the equipment…”
- Tractor user, Heilongjiang farmer

“The local Chinese equipment often has inconsistent quality, especially for the new products. Sometimes it takes 2 hours to do the harvesting, sometimes it takes 4 hours for the same area coverage.”
- Cotton harvester user, Xinjiang farmer

Source: Agricultural equipment survey (2010); MelchersRaffel analysis
Tractors in the high horsepower segment, with high working efficiency show great gains in sales

Annual sales volume of tractors by horsepower segment in China, 2011 vs. 2012
‘000 machines

Source: MelchersRaffel research
Interview results suggest that the marketing at distribution channels of agricultural equipment is of huge importance.

Key influential factors on purchase decision for agricultural equipment models and brands
% of respondents; N = 1,500

- Dealers/distributors recommendation: 37%
- Experienced/senior equipment operator recommendation: 31%
- Subsidy stimulus for selected models: 24%
- Friends/neighbor recommendation: 11%
- Equipment manufacturers recommendation: 7%

Source: Agricultural equipment survey (2010); MelchersRaffel analysis
4. Competition and M&A activities in the agricultural equipment sector
Multinationals (with JV in China) dominate the high-tech segment (heavy tractors), while the light truck market is controlled by local Chinese companies.

Market share by horsepower segment of tractors in China

% of production

- **Heavy**
  - Market share of other players: 22%
  - Market share of top 3 players: 35%
- **Medium**
  - Market share of other players: 32%
  - Market share of top 3 players: 16%
- **Light**
  - Market share of other players: 13%
  - Market share of top 3 players: 15%

- Top 3 players account for 87%
- Top 3 are all local Chinese companies
- Lower technology level
- Heavy price competition

Source: Melchers Raffel research

© Raffel GmbH Corporate Development All rights reserved. Proprietary and confidential.
Many international companies choose to cooperate with a local company through acquisition or joint-venture to speed up their penetration of the Chinese market.

Selected examples of international agricultural equipment players in China

<table>
<thead>
<tr>
<th>Company name</th>
<th>Entry/ Investment mode</th>
<th>Location</th>
<th>Key descriptions</th>
</tr>
</thead>
</table>
| John Deere                    | Export, plus joint-venture with a Chinese company | Jiamusi, Harbin, Heilongjiang | • First products delivered to the Chinese market in 1978  
• In 1997, first JV factory was set up in China (Heilongjiang)  
• In 2010, John Deere built a R&D center in Tianjin, as well as their first solely-owned factory in China  
• JD by now operates 5 production plants in China |
| CNH                           | Export, plus joint-venture with Chinese company | Harbin, Heilongjiang       | • Entered China in 1995 through JV with two major brands: CASE IH and NEW HOLLAND  
• In 2002, CNH Global entered its second joint venture in China  
• In 2011, the company set up a production plant in Harbin (Northeast), which is a further expansion of the already existing production capacity in the growing market for heavy tractors |
| AGCO                          | Acquisition of Chinese company                | Yanzhou, Shandong          | • In 2011, AGCO acquired 80% of Shandong DaFeng  
• Strategic rationale: to participate in the quickly growing harvester Market in China |
| CLAAS                         |                                                | Weifang, Shandong          | • In 2013, CLAAS acquired 85% of Shandong Jinyee  
• Claas aims to expand its local production capacity to supply the growing Chinese market for harvesters, as well as to explore its production capacity for other products |
| SDF (SAME DEUTZ-FAHR)         | Joint-venture with Chinese company (Shandong Changlin Agricultural Equipment Co., Ltd.) | Changlin, Shandong         | • Joint-venture company founded in 2011 (50% by SDF and 50% by Changlin)  
• Changlin dealer network: 490 dealerships  
• Key products: tractors ranging from 25 to 110 Hp under the SH DEUTZ-FAHR brand and from 110 to 300 Hp under the DEUTZ-FAHR brand |

Source: MelchersRaffel research
The Chinese market has become a main battlefield for international agricultural machinery giants seeking growth

Examples of Sino-foreign partnership in agricultural equipment sector

**AGCO**
- Founded in 1990
- Annual sales revenue in 2012: EUR 7.2bn
- # of employees: 20,300
- Key product range: a complete range of corn, grain, rice and soybean harvesting machines

**CLAAS**
- Founded in 1913
- Annual sales revenue in 2012: EUR 3.4bn
- # of employees: >9,000
- Key product range: Combine harvesters, forage harvesters, balers, mowers, rakes, tedders and other harvesting machines

**Dafeng Machinery**
- Founded in 1995
- # of employees: >1,000
- Key product range: harvesters for Maize, wheat, cereals and soybean

**Jinyee**
- Founded in 1958
- Annual sales revenue in 2012: EUR 70mn
- # of employees: >1,000
- Key business coverage: The company has a comprehensive sales and service network in central and northern China
- Key product range: harvesters for the maize and wheat harvest

Source: MelchersRaffel research
Recent examples of Chinese companies with interests in the agricultural equipment sector

### Chery Heavy Industry Co., Ltd.
- Sister company of Chery Automobile Co., Ltd.
- Founded in Oct 2010
- Product range: Tractors, harvesters for wheat, rice and corn, drying machineries, etc.
- Number of production sites nationwide: 7
- Annual sales volume:
  - 2011: c. 12,000 units
  - 2012: c. 40,000 units
- Annual revenue:
  - 2011: RMB 12mn
  - 2012: RMB 3bn

### Zoomlion
- Top construction machinery manufacturer
- “I am planning to diversify our product portfolio. We would maintain our leadership position in construction machineries, but we would also like to expand into heavy trucks and agricultural equipment sector.”
  - Mr Zhan, Chairman of Zoomlion, Jun 2013
- “Medium to high-end segment of agricultural equipment is mainly dominated by foreign companies. Local Chinese companies have low share. We believe there’s high potential for us.”
  - Mr Sun, VP of Zoomlion, Jun 2013

### JiangSu JiangHuai Engine Co., Ltd.
- Top engine manufacturer
- Business portfolio also involves non-ferrous metal mining, as well as coal mining and sales business
- In March 2013, the company issued additional stocks to the majority shareholder to collect capital for expanding into the agricultural equipment sector
- Product range of agricultural equipment: Tractors, harvesters

Source: MelchersRaffel research
Chinese companies are striving to upgrade their technical capabilities through acquisitions or joint-venture partnerships

Examples of M&A / partnerships initiated by the local Chinese companies

<table>
<thead>
<tr>
<th>Type of acquisition / partnership</th>
<th>Deal date</th>
<th>Recent deals example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi. acquired Chi.</td>
<td>2009</td>
<td><strong>Wuzheng Group</strong> (four-wheel tractor manufacturer) acquired Shantuo Agricultural Equipment Co Ltd to expand its market share</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td><strong>Changfa group</strong> acquired Jianlian Combine Harvester (with the annual production of 5,000 units)</td>
</tr>
<tr>
<td>Chi. acquired Intl.</td>
<td>2011</td>
<td><strong>YTO Group</strong> has completed its acquisition of McCormick France S.A.S. YTO France SAS will produce hydraulic transmission sets and enlarge production scope to run a tractor assembly line to produce tractors to satisfy European Market and founded a R&amp;D center</td>
</tr>
<tr>
<td>Chi. JV with Intl.</td>
<td>2011</td>
<td><strong>Jianghuai Engine</strong> entered a JV with Korea`s Toyo to establish Jiangsu Donghe Machinery, launching its high-end agricultural terminal business</td>
</tr>
<tr>
<td>Chi. Partnered with Intl.</td>
<td>2012</td>
<td><strong>Chery Heavy Industries</strong> and Korea`s Daido Kogyo Co Ltd signed a global strategic cooperation agreement to quickly improve in the field of research and technology</td>
</tr>
</tbody>
</table>

*Source: MelchersRaffel research*
5. Strategic options from MelchersRaffel view
Strategic options to gain market share in China

Larger Companies

Organic Growth
- Investment in market development

M & A (JV / acquisition)
- Acquisition of business model and market access

Smaller Companies

“Network Capital”
- Sale of a minority stake to an investor from China
- Participation in the market development of the Chinese partner in China

Growth plan?
Marketing Strategy? Local assembly / production?
“Second brand” for price driven markets?

Existing targets?
Target’s fit / valuation / synergies?
How to implement a successful transaction?

Partner fit / Valuation / Strategic alignment?

Source: MelchersRaffel
Overview: Network capital can be a co-operation option for smaller European machine makers to gain market presence in China

A separate discussion paper „Network Capital“ with examples is available from MelchersRaffel.
MelchersRaffel is the company for successful Euro-Asia endeavours

- Founded: 1806 in Bremen, Germany
- Group Companies: more than 50 in the world – focusing on Europe, Southeast Asia, and Greater China
- Branches and representative offices in Asia: 25
- Other locations: South Africa, Ethiopia
- Employees in Europe: ca. 600 (ca. 500 in Germany)
- Employees worldwide: 1,700 (1,000 in Asia).

- Access to Know-how and network of 1,700 employees in technology, consumer and luxury markets in Europe and in 25 offices in Asia
- Experience from 150 years of successful business in China
- Offices in Shanghai, Hongkong, Singapore and Munich, Germany
- Client Service:
  - Strategy
  - Business Development
  - Designing Business Models
- M&A
  - Acquisition and Desinvestment of Companies
  - Structuring Joint Ventures and Alliances
- Contact:
  - www.melchersraffel.com
  - E-mail: info@melchersraffel.com

- Experience in advising companies in the larger middle class.
  - The employees of Raffel CD have both industrial and consulting experience in the international environment.
- For M&A activities (purchase and sale of companies and business units), Raffel CD combines the necessary M&A technique, strong strategy and market expertise. This allows the creation of outstanding value for the customer.
MelchersRaffel has offices and access to networks in all relevant Asian countries

MelchersRaffel Shanghai
13 floor, East Ocean Centre
588 Yan-An Road (East)
Shanghai 200001 / PRC
sha@melchersraffel.com

MelchersRaffel Munich
Loewengrube 12
80333 Muenchen, Germany
Tel +49-89-24208659-0
rcd@raffel.eu

MelchersRaffel Ltd. Hongkong
Shun Tak Centre West Tower
168-200 Connaught Road Central
Hong Kong
hkg@melchersraffel.com

MelchersRaffel Singapore
101, Thomson Road
# 24-01/05 United Square
Singapore 307591
sin@melchersraffel.com
Appendix
Rural population in China is shrinking due to the increasing urbanization as the Chinese economy further develops, creating a larger demand for farming mechanization.

Urban population vs. rural population in China, 2006 – 2015F

<table>
<thead>
<tr>
<th>Year</th>
<th>Total population</th>
<th>Rural population</th>
<th>Urban population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1,315</td>
<td>732</td>
<td>583</td>
</tr>
<tr>
<td>2007</td>
<td>1,321</td>
<td>715</td>
<td>606</td>
</tr>
<tr>
<td>2008</td>
<td>1,328</td>
<td>704</td>
<td>624</td>
</tr>
<tr>
<td>2009</td>
<td>1,335</td>
<td>689</td>
<td>645</td>
</tr>
<tr>
<td>2010</td>
<td>1,341</td>
<td>671</td>
<td>670</td>
</tr>
<tr>
<td>2011</td>
<td>1,347</td>
<td>657</td>
<td>691</td>
</tr>
<tr>
<td>2012</td>
<td>1,355</td>
<td>630</td>
<td>725</td>
</tr>
<tr>
<td>2013</td>
<td>1,362</td>
<td>609</td>
<td>753</td>
</tr>
<tr>
<td>2014</td>
<td>1,369</td>
<td>585</td>
<td>783</td>
</tr>
<tr>
<td>2015F</td>
<td>1,375</td>
<td>560</td>
<td>816</td>
</tr>
</tbody>
</table>

Urbanization rate: 44.3% to 59.3%

Source: National Bureau of Statistics of China, MelchersRaffel research
The Chinese rural population has seen an accelerating growth in annual disposable income, implying higher purchasing power and affordability of agricultural equipment.

Annual disposable income of rural population in China, 2006 – 2012
RMB per capita

Source: National Bureau of Statistics of China, MelchersRaffel research