



Importance and key factors for success of cashew sector in Vietnam

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1. INTRODUCTION

- The area and production of raw cashew in Vietnam ranks the 3rd in the world after India and Ivory Coast.**
- In 2016, cashew yield reached 1.250 kg/ ha, total production of raw cashew was more than 475 thousand tons (Vietnam Cashew Association, 2017).**

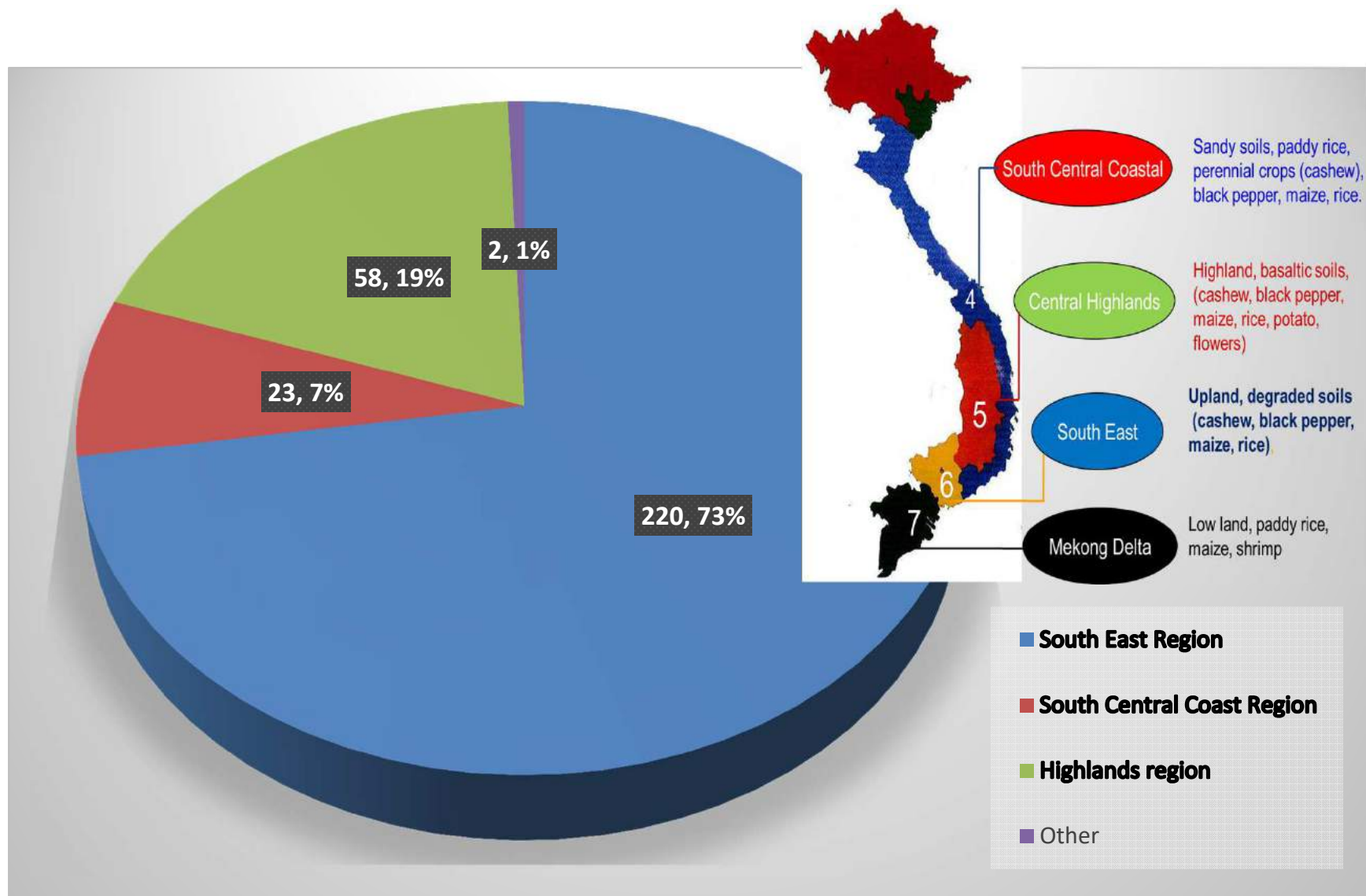
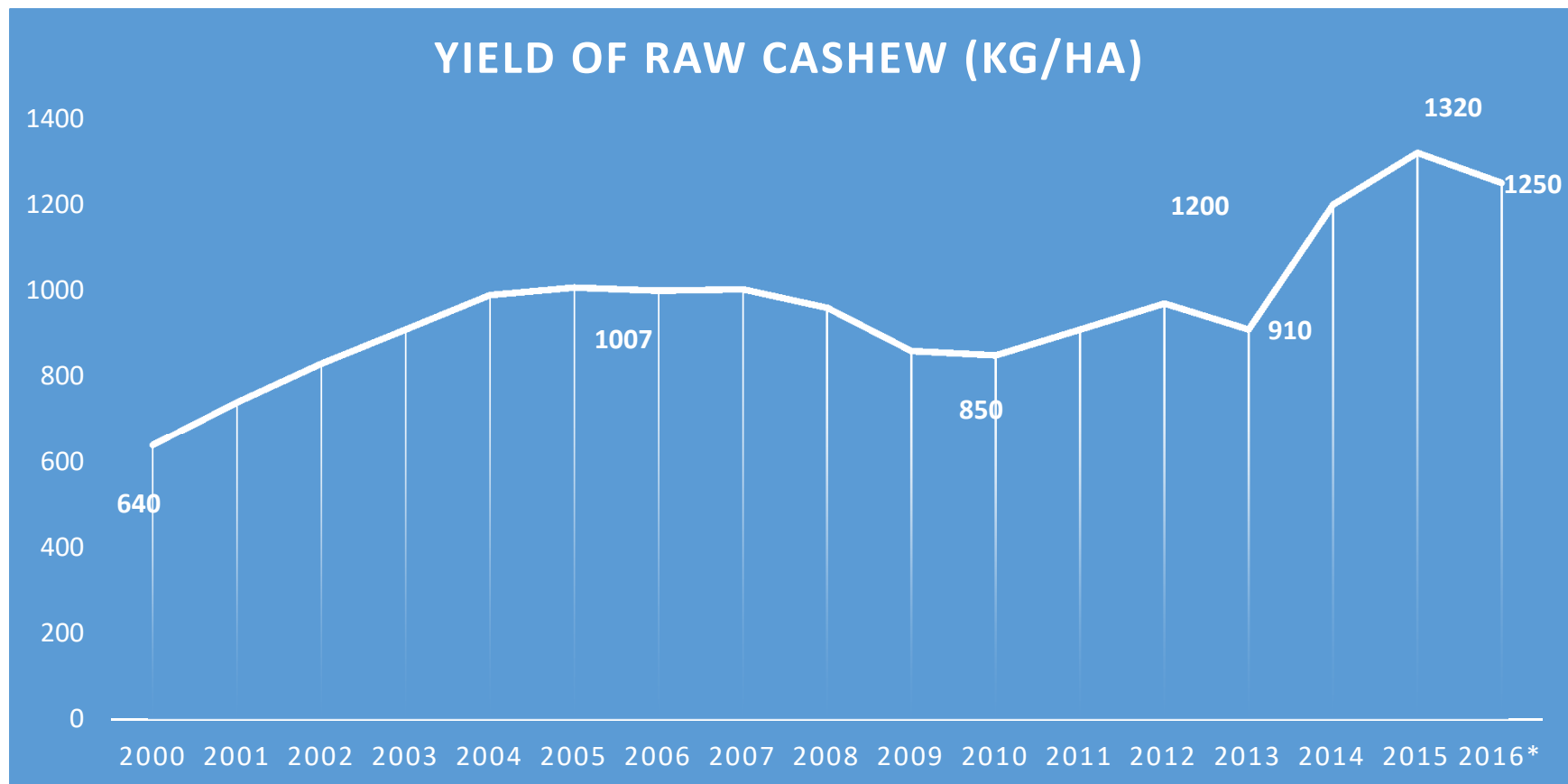


Figure 1. Area of cashew by region in Vietnam (thousand ha)

- The raw cashew yield in 2000 was only 640 kg / ha and has tended to increase in recent years. In 2014, it achieved 1,200 kg / ha, in 2016, reach 1,250 kg / ha;



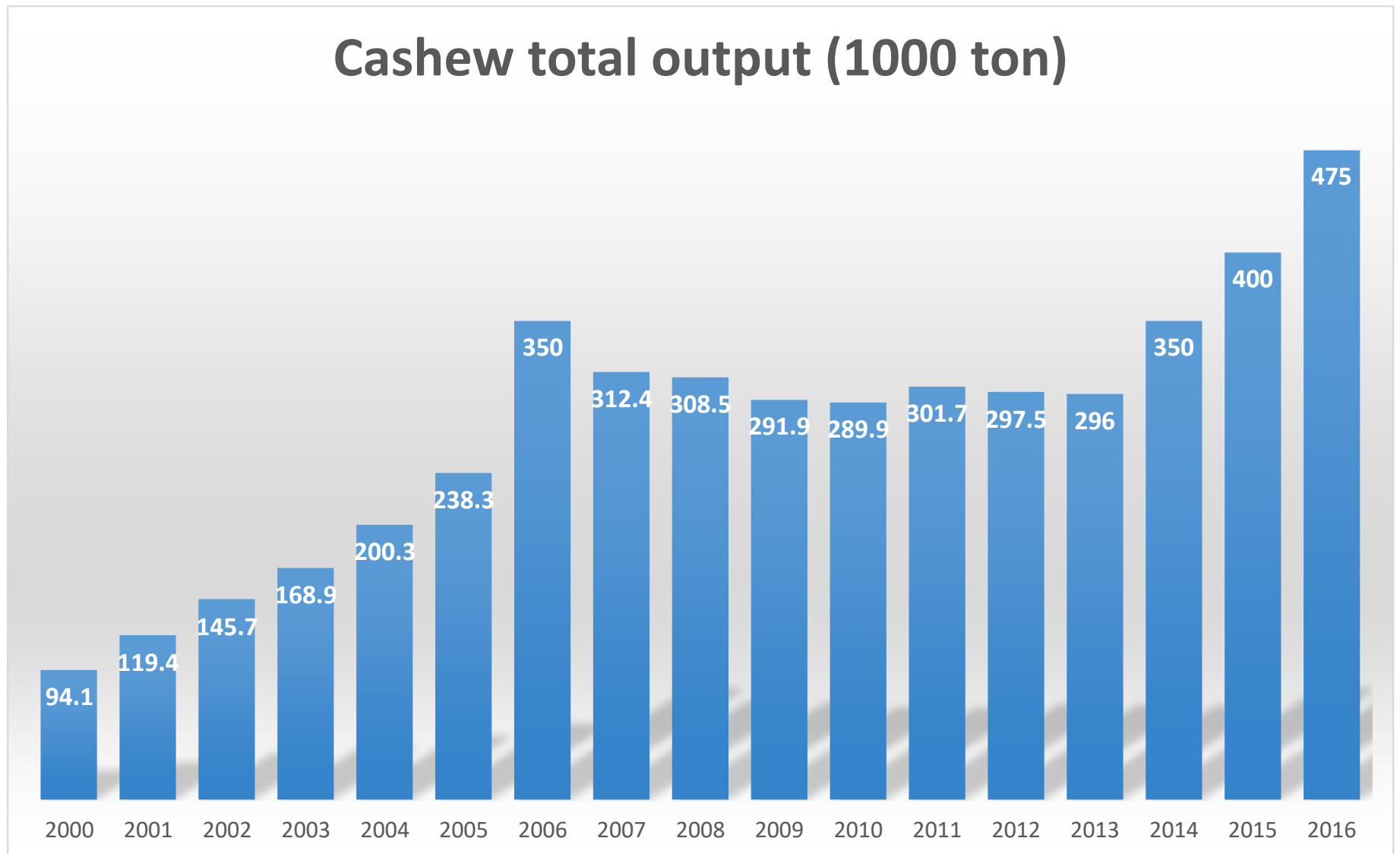


Figure 3. Total production of cashew in Vietnam from 2000 to 2016

Total Value of Exported cashew in Vietnam (2010-2016) *Billion USD*



2. KEY FACTORS FOR SUCCESS OF CASHEW SECTOR IN VIETNAM

2.1. Germplasm Collection and Breeding

- Collection and preservation of good genetic resources and breeding
- Evaluation and selection of good lines/varieties from the nurseries garden
- New varieties have been released for production

2.2 Intergrated Crop Management (ICM)

- Research on the pruning and grafting cashew (pruning in rows, and pruning with the raspberry shape); and determination of fertilizer doses for cashew

2. KEY FACTORS FOR SUCCESS OF CASHEW SECTOR IN VIETNAM (Con't)

- Improved methods in control of insects and diseases at different growth stages
- Study on the ICM of cashew trees in the main growing regions.

2.3. Extension Projects and Closer Linkage of 4 Partners (Farmers, Scientists, Policy makers and Companies)

2.4. Closer Linkage between Vietnam Cashew Association in Processing and Trading as well as Governmental Support

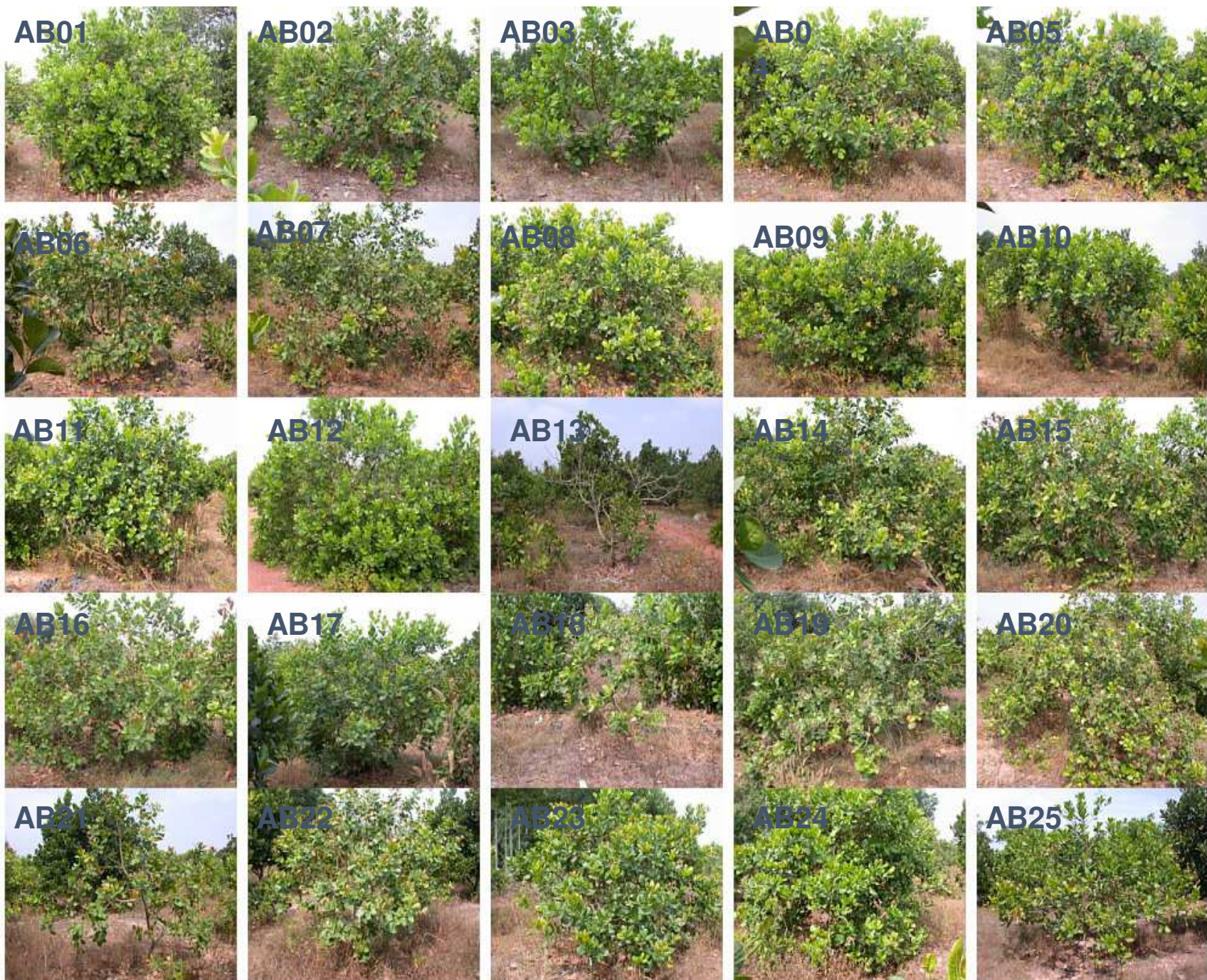
3. RESULTS

3.1. Germplasm Collection and Breeding

- Nurseries of 1.600 leading lines have been evaluated.**
- The selection criteria cashew varieties:**
 - Highly stable yield for 3 consecutive years - more than 30 kg / plant upwards (density: 120 plants/ ha);**
 - Nut percent: higher than 28%;**
 - <170 kernels / kg;**
 - From 10-15 fruits/ bunch.**
 - Percent of the flower buds more than 75%;**
 - The cashew older than 8 years after planting**
 - The plant has the highest yield in the garden which has several hundred plants or more.**

Selection 1,600 leading lines highly productive prospects
such as: VND93; VND85; VND1, DDH 29-7, DDH07, DDH
149.





Canopy structures of AB Collection (2003-05)



Rating 6 for continuous productivity

investigated leading lines

The high yielding cashew varieties planted in large scale production

Cashew variety PN1

- Kernels Yield after 8 years planting:
From 2000 –3.000kg / ha)
- Percent nuts: 28-33 %
- 140 -170/ kernels/ kg



Cashew Variety PN1 in large scale production



Cashew variety AB29

- Kernel Yield after 8 years planting:
2,000 – 3,000 kg/ ha)
- Nut percent: 30 %
- < 130 kernels/ kg



Cashew Variety AB29 in mass production



Cashew variety AB05-08

- Kernel Yield after 8 years planting:
2,000 – 3,000kg / ha)
- Percent nuts/kernels 29%
- < 140 kernels/ kg





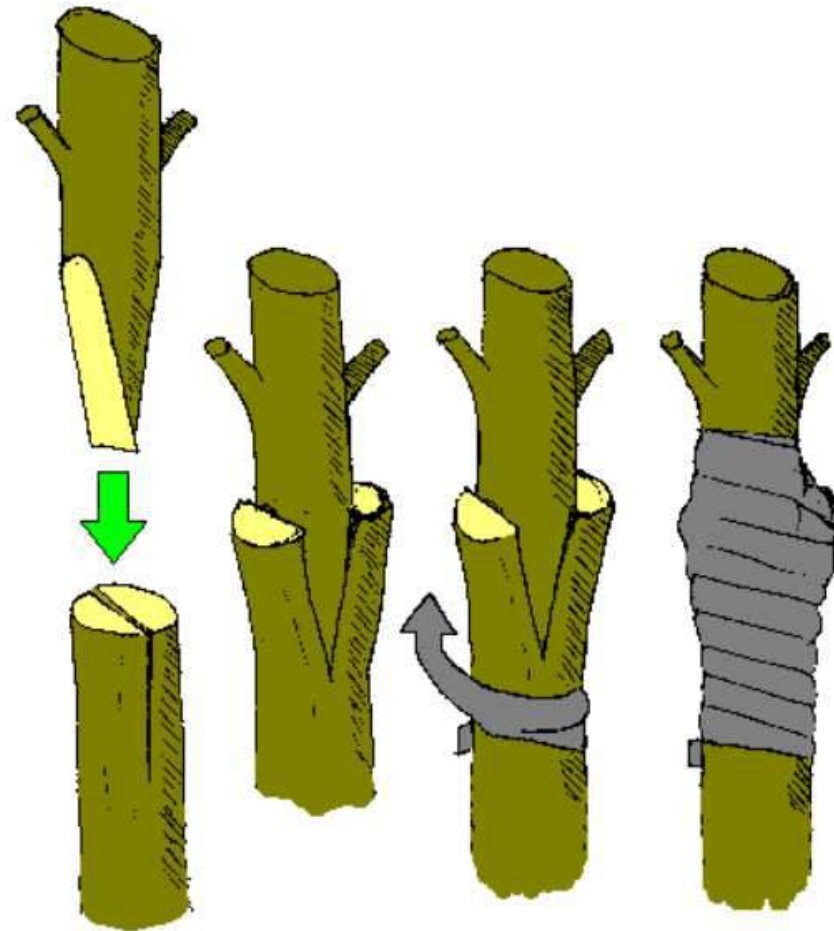
Bunch of variety AB05-08

Cashew variety DDH67-15

- Kernels Yield after 8 years planting:
2,000 – 2,500kg / ha)
- Percent nuts: 30%.
- < 155 - 165 kernels/ kg



Multiplication of seedling for farmers' production



Hình 3: Các bước trong ghép điều.

Method of grafting

Cashew seeding's



3.2. Intergrated Crop Management (ICM)

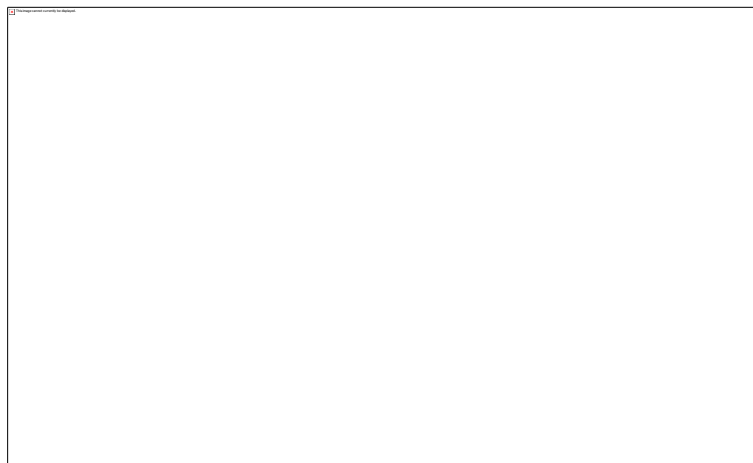
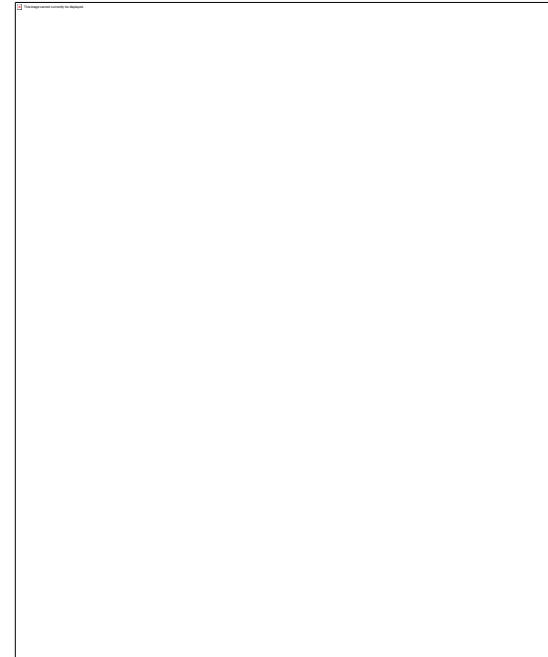
3.2.1. Pruning and canopy creating for cashew



Canopy creation for cashew



3.2.2. Cashew gardens after grafting



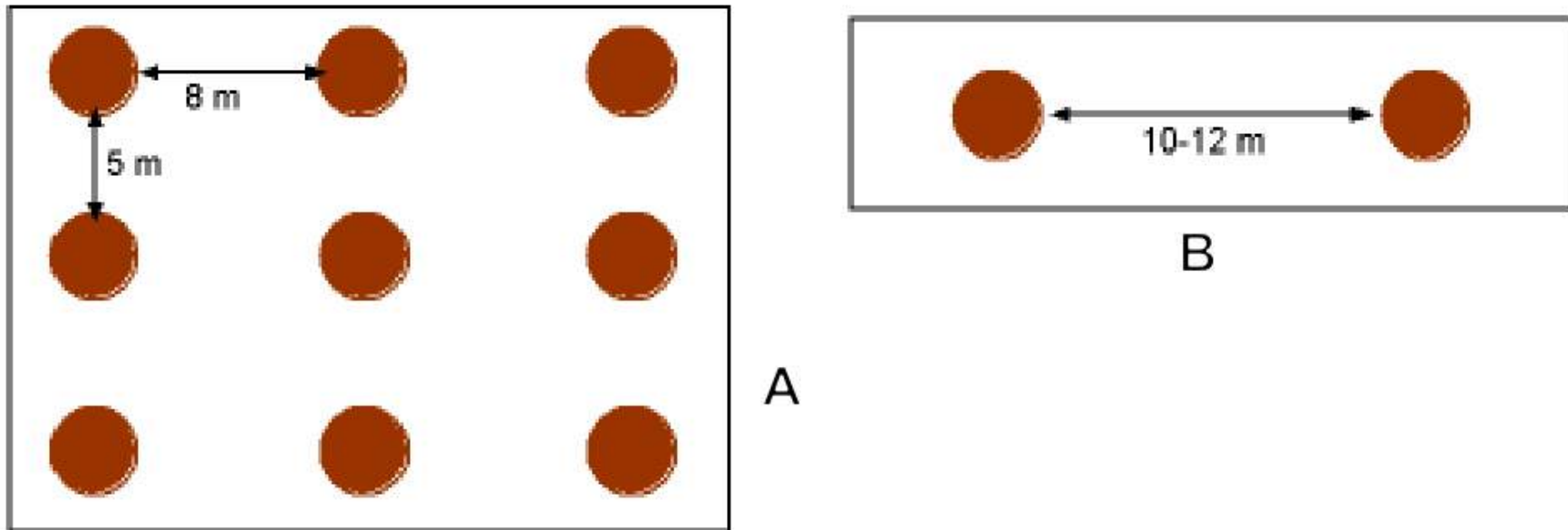
Top Grafting



Old cashew orchards with low productivity, which should be cut and grafted and renovated by high-yielding varieties on top

3.2.3. Cultural technique

Plant to plant Spacing



Hình 6: (A) Giai đoạn đầu; (B) Giai đoạn giáp tán.

A: Early period; B: When intercussing canopies

Intensive farming



Hình 9: Làm cỏ, xới xáo cho vườn điều.

- On grey soil applying 150g N-120g P_2O_5 -90g K_2O /**plant** per year and
- On red soil applying 150g N- 180g P_2O_5 -60g K_2O /**plant** per year.
- Growth regulators and foliar fertilizers at flowering – fruit stages increasing the rate of fruiting and quality of cashew nuts.
- Spraying GA3, Zn, Bo and the foliar fertilizer (NPK 6:30:30) increased the yield by 40% comparing to no spraying these ones.

A Manual of Cashew Cultivation in Vietnam accepted to be published (in Vietnamese)

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SỔ TAY HƯỚNG DẪN KỸ THUẬT TRỒNG VÀ THÂM CANH ĐIỀU

Trần Công Khanh và đồng sự

- Giống điều

Ba giống điều AB29, AB05-08 và PN1 do Trung tâm Nghiên cứu và Phát triển cây điều – Viện Khoa học KT NN miền Nam, Hiệp hội điều Việt Nam chọn tạo và giới thiệu.

Bảng 1. Năng suất, chất lượng hạt các giống điều (năm thứ 8 sau trồng)

Giống	NS hạt (kg/ha)	Số hạt/kg	Tỷ lệ nhân (%)	Tiềm năng NS (kg/ha)
PN1	2.500 – 3.000	<170	> 29	5.000
AB29	3.000 – 4.000	<140	> 28	5.000
AB05-08	3.000 – 3.500	<130	> 28	5.000
ĐDH67-15	2.000 – 2.500	<165	> 30	3.000
Yêu cầu	-	< 180	28	

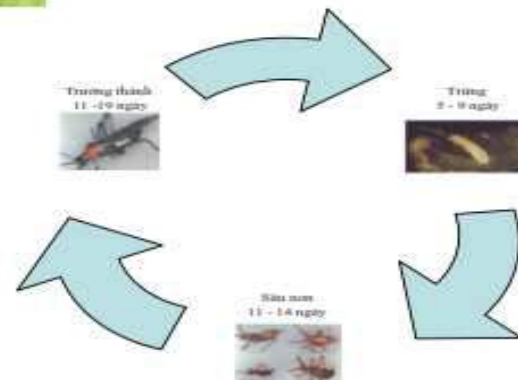


Hình 1. Đặc trưng hình thái của ba giống điều cao sản

Control of Insects and Diseases on cashew

mosquito bug/Mirid bug : *Helopeltis antonii* Signoret

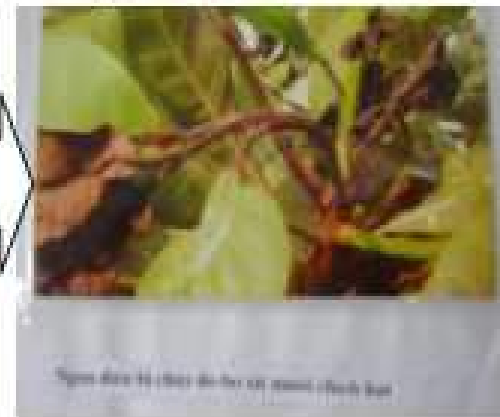
Đặc điểm hình thái



**Chồi
bị
hại**

Quy luật nhất sinh nhất triển

**Chồi
bị
hại
đã
héo
khô**



Stem borer on top: Alcides Sp



Trưởng thành



Trứng



Sâu non

Triệu chứng gây hại và quy luật hoạt động



Trưởng thành gây hại



Triệu chứng gây hại trên chồi non



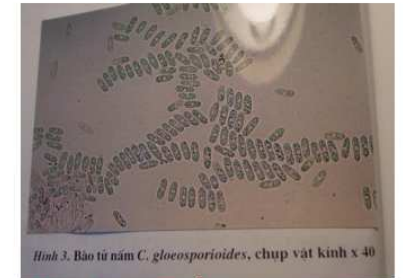
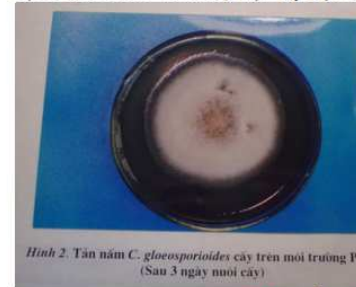
Green weevil: *Hypomeces Squamasus*



3.2.4. Use yellow ants (*Oecophylla smaragdina*) to control insect pests for cashew



Anthracnose disease: by *Fungus: Collectotrichum gloeosporioides*



Tán nấm và bào tử nấm trên môi trường nuôi cấy



Chồi bị bệnh



Cây nhiễm bệnh

Hình 1: Bệnh thán thư trên hoa và trái non.

Damping off disease by *Fungus*:
Phytophthora palmivora



Hình 3: Bệnh tấn công trên gốc điều gây chết cây.

Shoot rot and leaf fall disease by *Fungus: Phytophthora nicotianae* var. *nicotianae*



Hình 4: Bệnh gây thối cành, rụng lá.

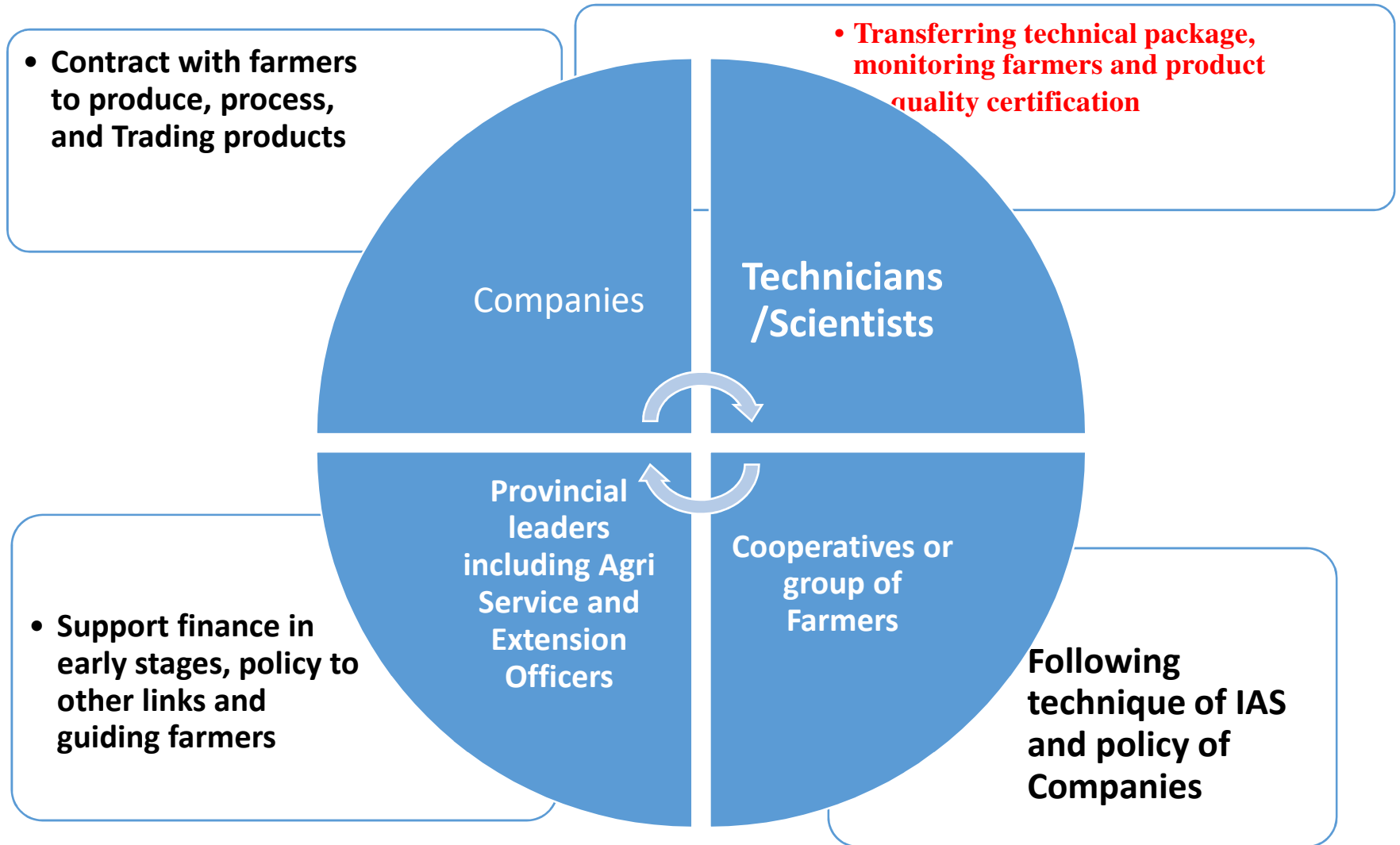
3.3. Extension Projects and Closer Linkage of 4 Partners



Training cashew cultivation techniques for farmers



General Linkage of four Houses to Produce any Commercial Agri Products in Vietnam Now



3.4. Closer Linkage between Vietnam Cashew Association in Processing and Trading as well as Governmental Support

1. After India, Now, Vietnam has 465 processing factories, total design capacity of 1.3 million tons of raw cashew/year.
2. The establishment and strong development of Vietnam Cashew Association (VINACAS) with 500 companies is one of the main driving force, promoting development of Vietnam cashew sector.
3. Vietnamese government supporting projects and **establishing a fund** aimed at developing sustainable cashew production.

Website:

<http://www.vinacas.com.vn/>



4 ORIENTATIONS FOR CASHEW DEVELOPMENT IN VIETNAM

To year of 2020

- Cashew Productivity average of 1.5 tones / ha nationwide.
- The main areas of cashew: 2.0 tons / ha.
- Building up models of organic cashew production for exportation

To 2030:

- + Cashew yields reach to 2.0 tons / ha.
- + The main areas of cashew reach 2.5 tons / ha.
- + 30% area under organic production

2017 - Vietnam Cashew Sector is proud of

- Two representatives attending ACA conference in Benin, 18-21 September
- Two representatives from IAS to attend cashew workshop in CÔTE D'IVOIRE, 26-28 September
- International Cashew Workshop in Hanoi, 30 September, coorganizers by MARD and PAN Group: “Sustainable Cashew Development together with Global Value Chain”



The Golden Cashew Rendezvous is set to be the World's Cashew Hub where all esteemed cashew stakeholders would find real cashew partners and deals as well as updating with the most reliable cashew information and forecasts thru special panels and qualified panelists from all over the world. **VINACAS hopes all cashew kernels buyers and raw cashew nut sellers and other cashew stakeholders would have wonderful time** during their visit and meet in Vietnam.

<http://events.vinacas.com.vn/>

Contact : Vinacas office in Ho Chi Minh city, Vietnam

Address: 135 Pasteur, Ward 6, District.3, HCMC.

Tel: 08-38242136; Fax: 08-38242138.

Email: hiephoidieuvietnam@gmail.com.

Contact person: Ms Hong Ngan for more details.

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