

# 2014

## MYANMAR AGRICULTURE IN BRIEF



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Family Farming:  
Feeding the world,  
caring for the earth  
World Food Day - 16 October 2014

Family Farming: Feeding the World, Caring for the Earth

The Government of the Republic of the Union of Myanmar  
Ministry of Agriculture and Irrigation

Myanmar  
**AGRICULTURE**  
*in Brief*

**2014**

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## Basic Country Data of Myanmar

Land Area 676,577 Square kilometer

### Population

- Whole country	51.41 million
Male	24.82 million
Female	26.59 million
- Population density	76 per square kilometer

### GDP

- GDP at Constant price (US\$ Billion)	50.54
- GDP at Constant price (US\$ Billion)	58.43

### Social Indicators

- Life Expectancy (Male)	67.5
(Female)	69.9
- Under 1 Mortality Rate(per 1000 live birth)	36.4
- Under 5 Mortality Rate (per 1000 live birth)	28.3
- Adult Literacy Rate	95.1
- Birth Rate (%)	67.1
- Telephone Use	126

### Structure of Gross Domestic Product (2012-2013)

Good	59.6	%
- Agriculture	22.5	%
- Livestock and Fishery	8.5	%
- Forestry	0.4	%
- Energy	0.1	%
- Mining	0.8	%
- Processing and Manufacturing	21.0	%
- Electric Power	1.1	%
- Construction	5.2	%
Services	21.6	%
Trade	18.8	%
Gross Domestic Product	100.0	%

## MYANMAR ECONOMY AND AGRICULTURE

- Myanmar is an agricultural country, and agriculture sector is the back bone of its economy. Agriculture sector contributes 23%(2013-2014) of GDP, 20% of total export earnings; and employs 61.2% of the labour force.
- New government has laid down the four economic policies of which one of the major economic objectives is "Building the modern industrialized nation through the agricultural development, and all-round development of other sectors of the economy".

### VISION, MISSION, POLICIES, OBJECTIVES, STRATEGY AND TARGETS

#### Vision

Achieving "Per Capita Income" and "Standards of Living" of rural populace relying on agriculture higher than the neighbouring countries and keep abreast with developed nations

#### Mission

- Attain maximum market share in regional and global markets for agro-based value-added agriculture and specialty food products
- Improve food security and poverty alleviation particularly in rural areas
- Manage Green Growth

#### Policies

- To emphasize production and utilization of high yielding and good quality seeds

- To conduct training and education activities for farmers and extension staff to provide advanced agricultural techniques
- To implement research and development activities for sustainable agricultural development
- To encourage transformation from conventional to mechanized agriculture, production of crops appropriated with climate and extension of irrigated area
- To amend existing agricultural laws and regulations in line with current situation

#### Long Term Objectives

- Create and sustain competitive advantage on agro-based and food products
- Level the knowledge and technology know-how of rural people with neighbouring developed countries
- Improve rural industrial and social infrastructures

#### Short Term Objectives

- Increase primary productivity at farm level
- Improve environment for establishment of rural agro-based SMEs
- Create inflow of FDI in agricultural sector
- Assure local and export market access and MIS
- Develop pure and applied research
- Increase efficiency in agricultural supply chain

#### Strategy

- Secure the linkages among R&D, Extension and Market
- Development of efficient supply chain and industry clusters
- Assure sustainable land tenure
- Establish efficient systems of:

- Inputs (seed, fertilizers & chemicals, machinery etc)
- Credit
- Guaranteed purchase and price
- Insurance on crops and climate
- Establish efficient buffer policy and system
- Promote contract farming
- Develop infrastructures:
  - SMEs law and regulations
  - Wholesales market law
  - Rural access roads
  - Rural electrification and bio-energy
- Institutional reform and HRD

#### Targets for First Five Year Short Term Plan (2011-2012 to 2015-2016)

- To extend net cultivated area up to 13.6 million hectare and cropping intensity 168 percent
- To attain 4.28 mt/ha of average yield of paddy and 33 mil mt of paddy production
- To extend the total irrigated area to 2.3 million hectare
- To extend the activities for the accuracy of agricultural statistics
- To encourage the production of qualified and standardized agricultural value-added products for more competitive in international market
- To create profitable and sustainable market for farmers

#### Key Factors for development of agricultural production

- Creating profitable and sustainable market for farmers
- Developing seed industry to utilize high-quality seeds appropriate with local conditions to compete in international market
- Adoption of Good Agricultural Practices
- Application of agricultural inputs such as irrigation water, chemical and natural fertilizers efficiently and timely
- Encouraging agro-based industry to produce agricultural value-added products
- Reduction of transactional costs along the process from seeding to marketing

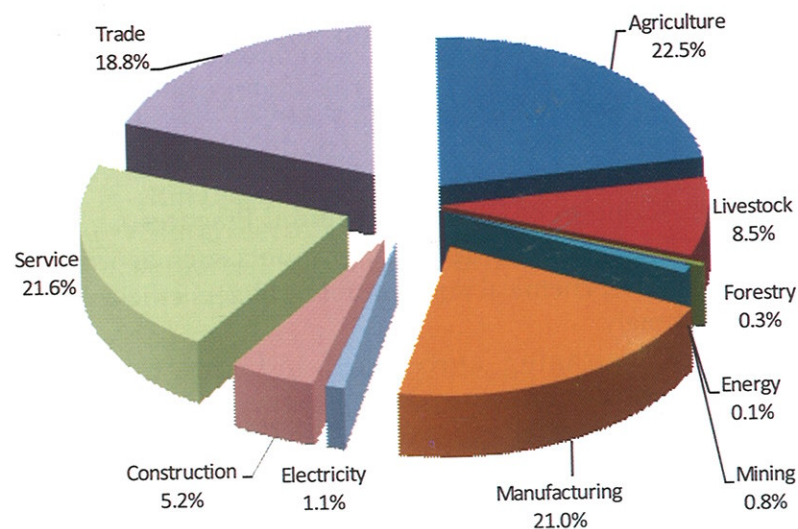
#### Main Function of MOAI

- (1) Provision and production of High-quality Seeds
- (2) Training and Education
- (3) Research and Development

#### AGRICULTURAL PLANS

1988-1989 to 1991-1992	Annual Plans
1992-1993 to 2010-2011	Short Term Plan
2011-2012 to 2015-2016	First Five Year Short Term Plan
2011-2012 to 2030-2031	Twenty Year Long Term Plan (National Comprehensive Development Plan)

## Gross Domestic Products (2013-2014) (Constant Price 2010-11)



Sector	2013-2014 (Kyat in Billion)
Agriculture	11,041.914
Livestock and Fishery	4,166.580
Forestry	169.253
Energy	65.283
Mines	407.152
Manufacturing	10,289.112
Electric Power	552.937
Construction	2,547.344
Services	10,569.876
Trade	9,213.561
<b>GDP</b>	<b>49,023.012</b>

## MEASURES BEING UNDERTAKEN BY THE MINIS- TRY OF AGRICULTURE AND IRRIGATION IN LINE WITH MAIN FUNCTIONS

### HIGH-YIELDING AND QUALITY SEED PRODUCTION

- Production and provision of high-yielding and quality seeds for paddy, maize, sesame, sunflower, green gram, pigeon pea, soy bean, cotton (Ngwe-chi-6) and sugar-cane has been undertaking throughout the country for the benefit of farmers and for the increase of the production of quality crops.
- Production of high-yielding and quality seed (Breeders' seeds) of paddy by seed farms under MOAI in 2011-2012, 2012-2013 and 2013-2014 are 2.6, 2.9 and 3.77 metric ton respectively. Production of Certified Seeds by Seed Model Villages, Contact farmers and private companies throughout the country in 2011-2012, 2012-2013 and 2013-2014 were 81,852, 96,361 and 149,689 metric ton respectively.
- Similarly, production and distribution of quality seeds for other major crops such as sunflower, pulses and industrial crops has also been carried out.



## TRAINING AND EDUCATION ACTIVITIES FOR GOOD AGRICULTURAL PRACTICE

- ◉ Educating and conducting trainings of Good Agricultural Practice (GAP) are being provided by extension agents to the farmers through the contact farmers for the efficient application of those methods appropriate with the respective ecological conditions.
- ◉ For the systematic use of GAP methods and agricultural machinery, demonstration farms have been established, and education activities such as field days, trainings and meetings with the farmers are being made throughout the country.



- ◉ In accordance with the guidance of the President, 202 hectare demonstration farm was firstly established in Nay Pyi Taw area and then extended model farms were also situated in eight townships in Nay Pyi Taw so that farmers in those area have opportunities to learn advanced GAP techniques practically and these advantages provide them to earn more benefit from increased crop

production. Drawing lesson from this success story, plan to establish model farms in each selected township in States and Regions is being carried out at first stage and then extended activities will be taken in order for the benefit of all farmers throughout the country.

## RESEARCH AND DEVELOPMENT ACTIVITIES

- ◉ Appropriate crop varieties and agricultural techniques compatible with respective ecological conditions, suitable cultivation methods, irrigation techniques, input utilization, pest control and management are being conducted in Ministry's research farms.
- ◉ For the outcome of new high-yielding improved varieties suitable with respective regional ecological conditions, research for major crops such as paddy, hybrid corns, green gram, black gram, pigeon pea, soy bean, sugarcane and cotton is being made throughout the country.



REFORM MEASURES UNDERTAKEN BY  
MINISTRY OF AGRICULTURE AND IRRIGATION

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## REFORM IN LAWS AND REGULATIONS RELATED TO AGRICULTURE SECTOR

- ⊙ During the term of new government, Ministry of Agriculture and Irrigation drawn up 2 new land laws for land management, namely, Farm Land Law and Vacant, Fallow and Virgin Land Management Law, and by-laws of those were enacted in 2012. In 2013, Law of Protecting Rights and Enhancing Economic Welfare of Farmers was enacted. At present, amendment of existing 7 laws, draft of new laws to replace existing 3 laws which are not appropriate to the present situation and draft of another new law are under the process.

## POLICY REFORM IN AGRICULTURE SECTOR

- ⊙ Based on the state's objective, "Sustaining agriculture development towards industrialization and all round development", agricultural policy changes were made aiming to poverty reduction and rural development through development of agriculture. Five reform measures for agricultural development urged by the President during his field visits in agricultural farms are as follows:-
  - (1) Participation of farmers with enthusiasm for the development;
  - (2) Replacing the traditional varieties with improved quality and high yielding seeds;
  - (3) Replacing traditional farming system with modern scientific farming system;
  - (4) Transforming the rain-fed farming into systematic irrigated farming;
  - (5) Converting conventional small-scale farms into mechanized farms in the form of acre-or hectare-plots in order to change manual farming to mechanized farming.

- ⊙ Major tasks of the Ministry of Agriculture and Irrigation are seed production, training and education and research and development. Agricultural policies adopted for First Five Year Short Term Plan (from 2011-2012 to 2015-2016) are:-

- (1) to emphasize production and utilization of high yielding and good quality seeds
- (2) to conduct training and education activities for farmers and extension staff to provide advanced agricultural techniques
- (3) to implement research and development activities for sustainable agricultural development
- (4) to encourage transformation from conventional to mechanized agriculture, production of crops appropriated with climate and extension of irrigated area
- (5) to amend existing agricultural laws and regulations in line with current situation.

### REFORM IN INSTITUTIONAL STRUCTURE

- ⊙ By the approval of Union level Cabinet Meeting No. 3/2012 held on 19-1-2012, the former two economic institutions, namely, Myanmar Agriculture Service and Myanmar Industrial Crops Development Enterprise, under the Ministry of Agriculture and Irrigation were reformed as the departmental institutions, namely, Department of Agriculture and Department of Industrial Crops Development respectively according to the agricultural development policy.
- ⊙ Recruitment of staff and establishment of new State Agricultural Institutes were done in accordance with rules and regulations, as Nay Pyi Taw Council Area

has been founded and administrative reform of districts, townships and sub-townships has been conducted by the Ministry of Home Affairs.

### PLAN AND ACTIVITIES TO BE IMPLEMENTED IN THE REMAINING 2 YEARS OF FIVER YEAR SHORT TERM PLAN

- ⊙ Among the policies, objectives, activities adopted for 2014-2015 National Economic Plan by Parliament, plans and activities for agriculture sector to be implemented are as mentioned below.

- (1) to implement the (21) irrigation projects including following (5) ongoing projects which were given special priority by former military government during their regime, in accordance with the long term national interest;

- (a) Myit-Thar Dam Project
- (b) Zaw-gyi (Myo-Gyi) Multi-purpose Dam Project
- (c) Ya-Za-Gyo Dam Project
- (d) Phyu-chaung Dam Project
- (e) Kyein-kham Multipurpose Dam project

- (2) to implement the remaining 16 irrigation projects (1 project in Kachin State, 1 project in Sagaing Region, 5 projects in Bago Region, 2 projects in Ma-gwe Region, 3 projects in Nay Pyi Taw Council Area, 2 projects in Yangon Region, and 2 projects in Ayeyarwady Region) according to the priority level and budget availability;

- (3) to implement the renovation and rehabilitation works for damaged canals systems of old dams and to continue construction of irrigation and drainage canals and buildings remained in the

completed irrigation projects and electric pumping projects throughout the country as originally planned;

- (4) to implement the mitigation and prevention activities with region-wise prioritized schemes for floods and natural disasters prone area, such as Ayeyarwady, Bago, Yangon Regions and Mon, Kayin, Rakhine States;
- (5) to establish the advanced agricultural water management system including tapping of underground water in water deficit area especially in Dry Zone;
- (6) to prioritize the activities to eliminate the shifting cultivation, to develop systematic terrace cultivation and agro-forestry in hilly regions such as Kachin, Kayah, Chin and Shan states, in which land scarcity issue situated;
- (7) to implement the development of systematic mechanized farming in the areas which have irrigation network system and transformation from conventional to mechanization activities in Regions and States in parallel;
- (8) to implement the development of seed industry in order to enhance the production and distribution of various high yielding quality seeds suitable for different types of regional conditions, including paddy which is fundamental to agricultural development;
- (9) to establish the demonstration farms at township and village levels to disseminate systematic good agricultural practices to the states and regions to enhance the agricultural development.
- (10) to encourage the establishment of value-added agrobased industries particularly for the major

crops such as rice, pulses, oilseed crops, in region wise.

- (11) to fulfill the needs of post harvest technology to prevent losses in production of seasonal crops, with the step by step establishment of supporting facilities such as warehouse, dryers, and cold storage;
- (12) to enhance quality of existing laboratories and to install modern and high-tech equipments for soil test, inspection of fertilizers, pesticides and other agricultural inputs, and quality test for agricultural produces for export;
- (13) to encourage the establishment of wholesale markets essential to assure market prices and strengthening of market share for agricultural commodities;
- (14) to increase the number and upgrade the capacity of State Agricultural Institutes in order to disseminate basic agricultural techniques in all states and regions;
- (15) to upgrade and fulfill the needs of research farms in line with the international standards;
- (16) to carry out the upgrade of Agricultural University and training institutions under the Department of Agricultural Research, Irrigation Department, and Agricultural Mechanization Department, for human resource development in region and state levels in line with the requirement, together with the support of teaching aids, machinery, accessories and other needs;
- (17) to undertake step by step to increase the number of technicians and staff in line with the requirement for effective and better management

including building of mutual relations with international institutions and enhancing competition in international market for the export of agricultural products in accordance with state's national economic plan as the agriculture is the major and primary economic sector of the state;

- (18) to support the needs in production and broadcasting of Farmers' Channel programs by MRTV, to disseminate the advanced technology in agriculture and livestock, research findings and out comes, local and international agricultural news, weather and climate conditions and other agricultural information in timely manner to farmers all over the country.

## LIST OF MAIN CROPS CULTIVATED IN MYANMAR AGRICULTURE SECTOR

<b>Cereals</b>	paddy, wheat, maize, sorghum
<b>Oilseeds</b>	groundnut, sesame, sunflower, niger, mustard
<b>Pulses</b>	17 kinds of pulses including black gram, green gram, pigeon pea, soy bean, pelun, kidney bean, butter bean, chick pea, garden pea, sultapya
<b>Industrial Crops</b>	cotton, sugarcane, jute, rubber, coffee, muberry, oil-palm
<b>Kitchen Crops</b>	chilly, onion, garlic, ginger, tumeric, potato
<b>Fruits &amp; Vegetables</b>	Mango, banana, citrus, pears, durin, mangosteen, pineapple, rambutan and others tropical and temprate vegetables



## PADDY

- Myanmar stood as a major rice exporter with its export amount of about 3 million tons between 1921 and 1941, in colonial period.
- In 1977-1978, pilot project for paddy high yielding program was launched at Shwebo and Teikkyi with the support in technology and inputs distribution.
- Summer paddy programme was introduced in 1992. By using short-lived high yielding varieties together with proper irrigation system, 0.3 million hectares of summer paddy were grown. As the yield of summer paddy is more than monsoon paddy, sown area of summer paddy increased significantly.
- Therefore, total paddy sown area reached at 5.7 million hectares and rice export was increased to 1 million tons in 1994-1995.

### Paddy Production

Year	Sown Area (mil ha)	Yield (mt/ha)	Production (mil MT)
1998-1999	5.76	3.13	17.08
2001-2002	6.45	3.42	21.92
2002-2003	6.49	3.42	21.81
2003-2004	6.54	3.54	23.14
2004-2005	6.86	3.64	24.75
2005-2006	7.39	3.75	27.68
2006-2007	8.12	3.83	30.92
2007-2008	8.09	3.93	31.45
2008-2009	8.09	4.03	32.57
2009-2010	8.07	4.06	32.68
2010-2011	8.05	4.07	32.58
2011-2012	7.59	3.83	29.01
2012-2013	7.24	3.84	27.70
2013-2014	7.28	3.90	28.32

- According to the National Planning Targets, the total area of paddy was 7.31 million hectares, comprising 6.2 million hectares under monsoon paddy and 1.1 million hectares under summer paddy and average yield 3.97 MT/Ha in 2013-2014. Actual paddy sown area in the year was 7.28 million hectares and



production was reached at 28.32 million metric ton.

- To generate increased production of paddy, measures are also being undertaken in growing high yielding varieties, including introduction of hybrid rice varieties.
- According to the major tasks of the Ministry, adoption of 14 points Good Agricultural Practices in paddy cultivation and production of qualified and good high-yield seeds have been undertaken in 2011 paddy growing season.
- Utilization of good quality seeds is vital for the increase of rice production. Therefore, seed production of a hybrid rice varitey, namely "Pa-le-thwe", was done on 32 hectare of Yezin Agricultural University and 40 hectares of Shwe Taung Farm, Wan Dwin township in rainy season in 2011 by the Ministry of Agriculture and Irrigation with the cooperation of Chinese technicians. Among the total seed was distributed to cultivate 1892 hectares in State and Regions for summer paddy cultivation in 2012.
- In 2011-2012, F1 seed production of hybrid rice, Pale Thwe, was implemented during monsoon season in Shwetaung and Yezin and yielded 103,164 kilogram through the cultivation of 73 hectares land. In summer season, 342 hectares of land was cultivated in Shwetaung(Mdy), Yezin(NPT), Kayin, Mon,

Ayeyarwady and under the area of private companies such as Dagon International, Sin Shweli, Green Asia and Myint Zayar and 558,983 kilogram of F1 seeds was produced.

- In the monsoon season of 2012-2013, Pale Thwe hybrid rice seed production was undertaken in Nay Pyi Taw, Kachin, Saganing, Bago, Magwe, Mandalay and Yangon, and 426,908 kilogram could be produced through the cultivation of 259 hectares land. In summer season, 484 hectares of land was cultivated in eight Regions and States, and 884,885 kilogram could be produced.
- In the monsoon season of 2013-2014, 215 hectares and 8 hectares were planned to be produced by the department and private companies respectively in Magwe, Mandalay, Shan (South), Shan (North), Shan (East). As a result, 429,694 kilogram of hybrid rice seed could be produced under the total land of 223 hectares. In summer season, 110 hectares and 214 hectares totaling 324 hectares were planned to be produced by the department and private companies respectively in Nay Pyi Taw, Bago Region, Mandalay Region, Yangon Region, Shan (South), Shan (North), Shan (East), and Ayeyarwaddy and 95% of total projection, 547,951 kilogram, could be produced.



## MAIZE

- For the monsoon maize seed production in 2011- 2012, Yezin 3 and CP- 888 varieties were cultivated in Kachin State and 26,250 kilograms could be produced.
- For the monsoon maize seed production in 2012- 2013, hybrid seed 6, hybrid seed 10, hybrid seed 11, UH 008, Yezin 3, Yezin 4, CP 888 varieties were cultivated in 2013 hectares and 89.54 million kilograms could be produced.
- For the monsoon maize seed production in 2013- 2014, Yezin 6, CP 888 and CP 868 varieties were cultivated in Myae Mon Farm and Kantpalu Farm in Sagaing Region, Thantae Village, Nantlatt Farm, Haehoe Central Farm and Tharminekhan in Southern Shan State were cultivated 1,597 hectares and 21.76 million kilograms could be produced.

### Maize Production

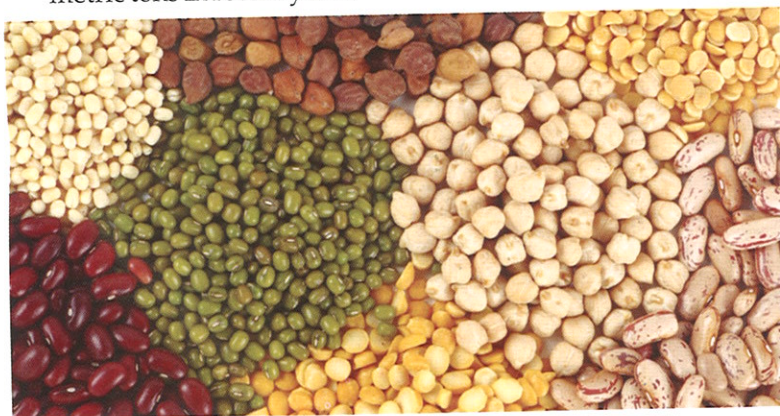
Year	Sown Area ('000 ha)	Yield (mt/ha)	Production ('000 MT)
1998-1999	188	1.65	303
2001-2002	251	2.12	532
2002-2003	269	2.25	603
2003-2004	284	2.48	704
2004-2005	293	2.68	784
2005-2006	321	2.87	918
2006-2007	327	3.16	1,032
2007-2008	346	3.32	1,146
2008-2009	355	3.39	1,203
2009-2010	363	3.43	1,245
2010-2011	389	3.54	1,376
2011-2012	412	3.61	1,485
2012-2013	422	3.64	1,526
2013-2014	441	3.70	1,626

- In 2013 - 2014, Myanmar maize exported 200 tons to Singapore and Vietnam. Farmer should make effort to meet the market demand through the selection of high yielding and quality maize and due to receiving US\$ 280 – 300 per ton.

- 80% of Myanmar total maize export is being exported to China, Singapore, Viet Nam, Malaysia, Indonesia, India, Bulgaria and Spain. Myanmar could export 954 thousand metric tons during 2013- 2014.

### PULSES

- Pulses were grown in Myanmar since King's era. During Myanmar King's era, it was sown in various places of the country at any cropping pattern.
- Although area of pulses was dropped down due to civil war after 1948, it was rapidly increased again to 0.8 million hectares in the later part of 1960s during short period. Major pulses in Myanmar are soybean, chickpea, butter bean, green gram, pigeon pea, black gram, kidney bean, cow pea, lab lab bean, sultani and sultipya.
- Presently, Myanmar is standing as a leading country in pulses production among ASEAN member countries.
- Major exportable varieties of pulses are black gram, green gram, pigeon pea, soy bean, butter bean, cow bean and kidney bean.
- Cultivation of pulses, with relatively less expenses in cost of cultivation and increased demand for domestic consumption and export, has increased substantially from 0.73 million hectares in 1988-89 to 4.45 million hectares in 2012-2013. Export of pulses increased from 17,000 metric tons in 1988-89 to around 1.3 million metric tons in recent years.



### Production of Pulses in Myanmar

Year	Sown Area (mil ha)	Yield (mt/ha)	Production (mil MT)	Export (000' MT)
1998 - 1999	2.46	0.71	1.68	622
2001 - 2002	3.20	0.84	2.66	1,035
2002 - 2003	3.27	0.85	2.76	1,038
2003 - 2004	3.39	0.91	3.10	1,211
2004 - 2005	3.54	1.00	3.53	873
2005 - 2006	3.81	1.05	4.01	865
2006 - 2007	4.00	1.11	4.44	1,156
2007 - 2008	4.23	1.18	4.97	1,142
2008 - 2009	4.28	1.23	5.27	1,450
2009 - 2010	4.38	1.25	5.49	1,232
2010 - 2011	4.50	1.28	5.79	829
2011 - 2012	4.42	1.23	5.41	1,296
2012 - 2013	4.45	1.28	5.70	1,484
2013 - 2014	4.53	1.30	5.90	1,301

- To increase pulses production, new improved local varieties such as Yezin-6, Yezin-8, Yezin-9, Yezin-11 and Yezin-14 for green gram, Yezin-3, yezin-4 for pigeon pea, yezin-4, yezin-5 for black gram have been replaced since 2011-2012.

### OIL SEED CROPS

- Oilseed crops also play a vital role in Myanmar due to high consumption of cooking oil compared to other neighbouring countries. Major oilseed crops include groundnut, sesame, sunflower, mustard and niger.
- As the amount of edible oil produced is not enough for local consumption, approximately 200,000 mt of palm oil are being imported annually to fulfill the local requirement.
- Plan for the increase in sown area and yield per acre of oil seed crops in order to substitute the imported palm oil is being implemented.
- To support local sufficiency policy for edible oil, hybrid sunflower seed which can double the existing average yield has been introduced in appropriate areas to replace the existing OPV sunflower varieties throughout the country.



Oilseed Crops Cultivation in Myanmar

(000' Ha)

Year	Groundnut	Sesame	Sunflower	Mustard	Niger
1998-1999	503	1,199	343	30	57
2001-2002	569	1,382	498	55	91
2002-2003	581	1,417	460	69	93
2003-2004	654	1,448	511	64	104
2004-2005	684	1,496	516	67	112
2005-2006	730	1,338	690	71	129
2006-2007	756	1,443	614	75	121
2007-2008	815	1,508	835	92	147
2008-2009	844	1,570	884	98	152
2009-2010	866	1,634	883	100	156
2010-2011	877	1,585	859	101	158
2011-2012	887	1,595	543	72	156
2012-2013	914	1,553	624	63	156
2013-2014	931	1,622	481	61	155



## COTTON

- ◉ Cotton was introduced in Myanmar since Pyu era. It was annually exported about 15,000 tons during the colonial regime. There was no significant change in cotton area and production immediately after independence of the state. But, in 1952, Pyi-daw-tha Assembly (National Welfare Plan) adopted a cotton project so as to intensify cotton production.
- ◉ Long staple cotton (LSC) has been widely grown since 1962 and significant progress has been made in cotton area, yield and production with the establishment of Myanma Cotton and Sericulture Enterprise in 1994-1995. Cotton production has increased from 0.06 million metric ton at the sown area of 0.18 million hectares in 1988-1989 to the production nearly 0.47 million metric ton at the sown area of 0.28 million hectares in 2012-2013.

## Production of Cotton in Myanmar

Year	Sown Area (000' Ha)	Yield (mt/ha)	Production (000' MT)	Lint Export (MT)
1998-1999	325	0.55	158	3,721
2001-2002	295	0.53	141	262
2002-2003	302	0.54	143	-
2003-2004	292	0.57	158	-
2004-2005	306	0.65	195	-
2005-2006	332	0.71	236	-
2006-2007	354	0.76	268	-
2007-2008	368	0.84	308	-
2008-2009	367	1.23	453	-
2009-2010	359	1.46	523	-
2010-2011	351	1.57	550	-
2011-2012	326	1.64	533	-
2012-2013	278	1.68	467	-
2013-2014	299	1.70	509	-

- ◉ Among the industrial crops, area of cotton is planned to be expanded up to 0.32 million hectares in 2014-2015.
- ◉ Apart from carrying out research and extension activities to achieve target yield of long staple cotton in high quality, the programmes are under way to release improved varieties of long staple cotton through research and extension.



- ◉ Recently, five long staple cotton varieties, selected from the Indian entries, with highly adaptive characteristics on varying conditions of different cotton growing regions and seasons, have been released to replace Lungyaw-3, a traditional variety widely grown until 2002-2003. By the year 2005-2006, 99.99% of total long staple cotton areas have already been replaced with new varieties.
- ◉ Mahlaing-5 and Wagyi which are local varieties cover the entire short-staple cotton growing area.
- ◉ The germplasm of the new varieties maintained at cotton research farms largely constitute the seed source for further multiplication under the systematic seed flow scheme.
- ◉ In 2000-2001, a new strain from Thailand was found to be promising among exotics from other countries. As a result of this programme, Ngwe Chi-6 variety which is high yielding with obvious almost tolerance to bollworm which is most destructive pest for cotton was developed and released in 2006-2007. In 2011-2012, 85.6 percent all of long staple cotton sown areas were replaced with the Ngwe Chi-6 variety. In 2013-2014, total sown area of Ngwe Chi-6 reached to 229,696 hectares with an average yield of 2.08 mt/ha. 36,173 Farmers who adopted improved production techniques and applied adequate basic farm inputs obtained average yield of 2.84 mt/ha, while individual highest yield was as high as 3.04 mt/ha.

## SUGARCANE

- ◉ Sugarcane production was introduced in Myanmar since Inwa era for the traditional use as juice and tonic. Sugarcane production plan was adopted in 1932 and its sown area was gradually increased. Establishment of sugarmills and area expansion of sugar cane cultivation were also done in 1950 through the Pyi-daw-tha project.
- ◉ To substitute present cane varieties, the Standard Varieties (VMC 74/527, Co-795, 1148, /triton, VMC 67/611) from local or exotic, imported high yielding varieties (Guitang 11, Xintaitang 10, Z-10, Z-71/40, K 84/200, K 88/92, U Thong 1, Phil 72/70, Phil 74/64) and hybrid varieties by DAR (PMA 96/48 and PMA 96/56) are being distributed to sugarcane growers.