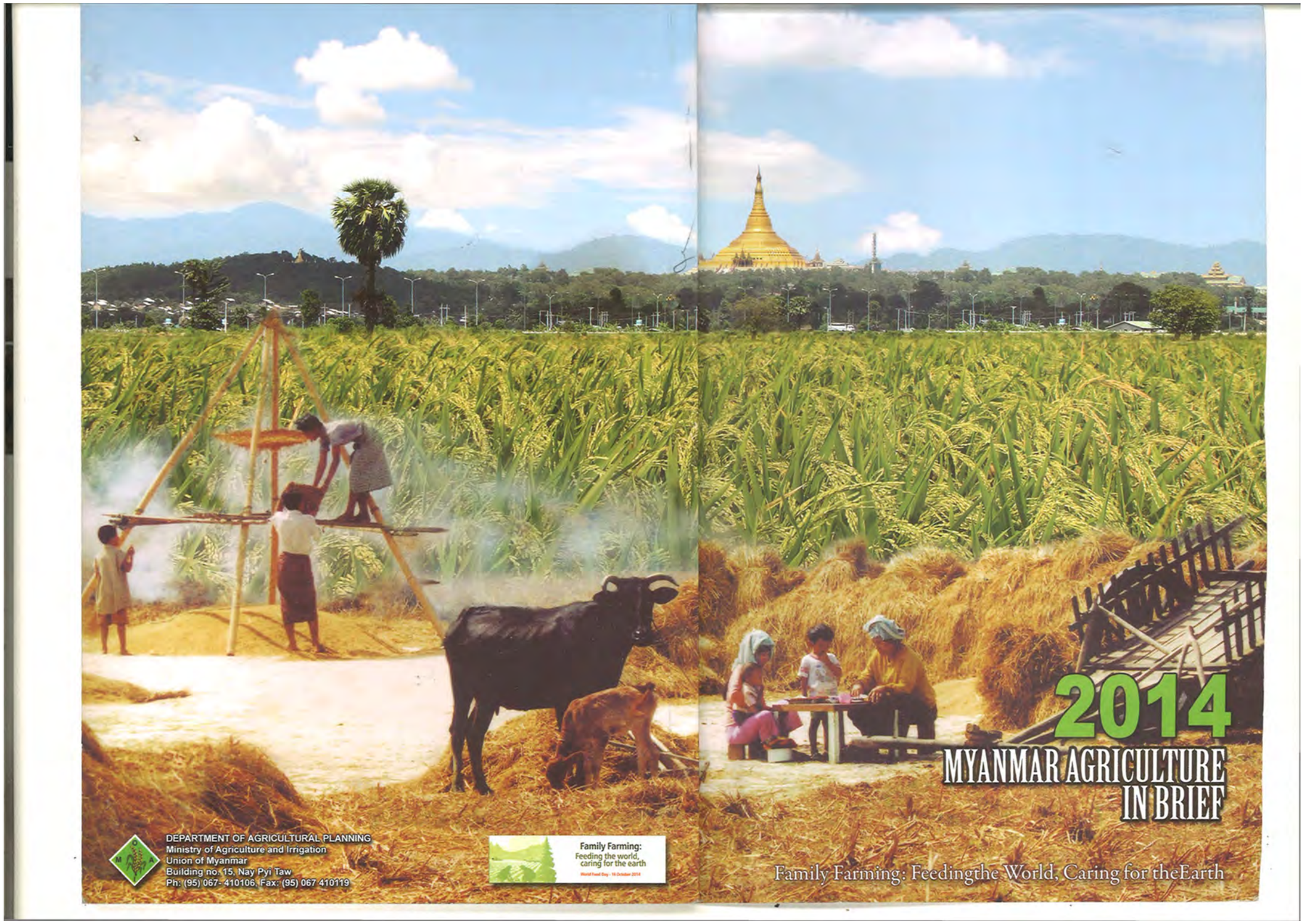

2014
MYANMAR AGRICULTURE IN BRIEF

Family Farming: Feedingthe World, Caring for theEarth

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

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

Myanmar AGRICULTURE *in Brief*

2014

September, 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 internationl 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

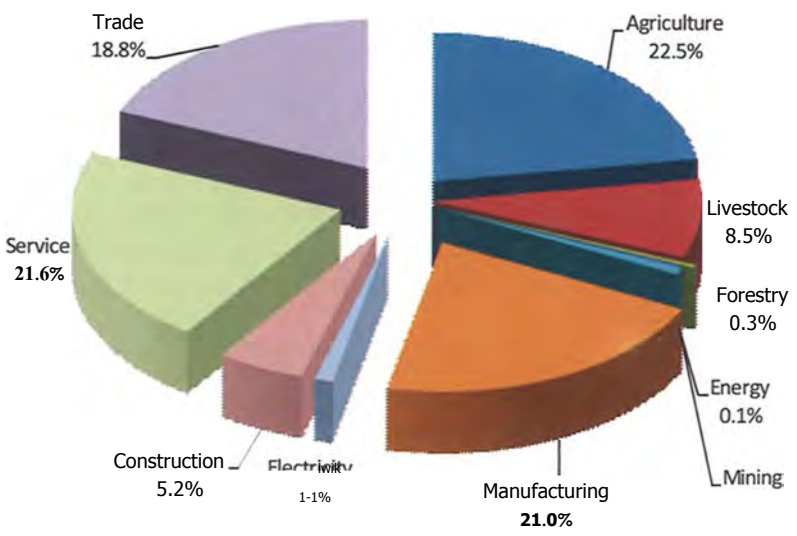
Main Function of MO AI

(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
GDP	49,023.012

MEASURES BEING UNDERTAKEN BY THE MINISTRY 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 sugarcane 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.

2014
Myanmar Agriculture *in Brief*

REFORM MEASURES UNDERTAKEN BY MINISTRY OF AGRICULTURE AND IRRIGATION

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

Cereals	paddy, wheat, maize, sorghum
Oilseeds	groundnut, sesame, sunflower, niger, mustard
Pulses	17 kinds of pulses including black gram, green gram, pigeon pea, soy bean, pelun, kidney bean, butter bean, chick pea, garden pea, sultapya
Industrial Crops	cotton, sugarcane, jute, rubber, coffee, muberry, oil-palm
Kitchen Crops	chilly, onion, garlic, ginger, tumeric, potato
Fruits & Vegetables	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 milion 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, FI 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 hectacres 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 FI 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, Bulgaeria 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 varities 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 milion 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[1] 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 form 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-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.

Sugarcane Production in Myanmar

Year	Sown Area (000' Ha)	Yield (mt/ha)	Production (000' MT)	Sugar Export (000' MT)
1998-1999	126	44.22	5,430	18
2001-2002	163	45.04	7,116	49
2002-2003	148	45.17	6,429	31
2003-2004	151	47.13	6,913	19
2004-2005	146	52.36	7,310	18
2005-2006	134	55.72	7,187	1
2006-2007	149	56.57	8,168	-
2007-2008	169	59.27	9,833	-
2008-2009	165	61.20	9,901	9
2009-2010	160	61.61	9,715	58
2010-2011	152	62.64	9,398	-
2011-2012	154	63.22	9,690	-
2012-2013	154	62.26	9,564	-
2013-2014	169	61.83	10,473	-

® Improved varieties of sugarcane including 8 kinds of HYVs were distributed to 13,434 hectares in States and Regions in 2012-2013 by MOAI. The cultivated area of sugarcane were about 274,770 hectare in 2011-2012 and it was increased to 154,087

hectare in 2012-2013 because of the purchasing price of sugarcane was increased to 30,000 kyats per ton and agricultural seasonal loan for sugarcane was increased to 100,000 kyats per acre by Myanma Agricultural Development Bank.

® Training for each single node nursery and cultivation which can produce 80 tons per acre was conducted aiming for producing raw material of sugar industry and improving the quality of sugarcane crop and income of farmers.

© Total sugarcane area increased to 169,972 hectares in 2013-2014 which is 0.9 mil mectric tons more than 2012-2013. It was due to the increase interest of sugarcane farmers according to the financial support and higer purchasing price . Therefore, demand of cultivation and income of farmers increased in double.

© It will achieve the advantages such as increasing income of farmer, the availability of raw materials and improving the agriculture sector of the state.

RUBBER

© Rubber was introduced in Myanmar around 1876 and commercial planting was started in 1905 and in 1909. The sharp increase of rubber area in the 1960s was due to the result of implementing a Rubber Project under Agriculture and Rural Development Corporation(ARDC) started in 1956. Under the Socialist Government in 1962, many rubber estates owned by both local citizens and foreigners were nationalized during 1964 to 1973. Thereafter, the rubber area declined between 1970 and 1980.

© The political change in 1988 also brought about the changes in the country's economic policy, with the adoption of a market-oriented economic policy. Under this policy, many agricultural crops including rubber can be freely planted, produced and marketed.

© The varieties of rubber grown in Tanintharyi Region, Mon and Kayin State of Myanmar are BPM-24, RRIC-100, RRIM-717, PB-260 and PB-235. In Bago, Yangon and Ayeyarwaddy Regions, PB-260, RRIM-717, PB-235, RRIM-623 and GT-1 are suitable and

in Kachin State and Shan States, RRIM-600, GT-1, PR-255, PR-107 and RRIM-623 are prominent varieties.

Rubber Production in Myanmar

Year	Sown Area (000' Ha)	Yield (mt/ha)	Production (000' MT)
1998-1999	149	0.48	23
2001-2002	186	0.59	37
2002-2003	185	0.59	40
2003-2004	189	0.55	40
2004-2005	203	0.57	52
2005-2006	226	0.59	64
2006-2007	295	0.60	73
2007-2008	380	0.64	89
2008-2009	428	0.65	93
2009-2010	463	0.67	112
2010-2011	504	0.69	128
2011-2012	543	0.75	150
2012-2013	581	0.77	164
2013-2014	610	0.76	177

OIL PALM

© Oil palm was introduced in Myanmar since 1921 at the Central Farms under Agriculture Department, in Mudon, Hmawbi, Myaungmya and Sittwe.

© A systematic plantation of oil palm was started in 1926 on 115 hectares of plantation farm at Egani Village, Yebyu Township,

Tanintharyi Region.

© Extension service for oil palm was implemented by Agricultural Corporation at Pagawzun (Dawei) and Ingabo(Kyaikhto) estates in 1972-1973, at Thandwe in 1978, at Launglon (Dawei) estate and Nyaung-bin-kwin(Tanintharyi Region) estate in 1979 and at Myitkyina estate in 1980. The Prison Department also planted oil palm at kawthaung estate in 1982.

® In 1999, 0.2 million hectares of oil palm plantation were established in Tanintharyi Region to meet the demand of palm oil in Myanmar. In 2013-2014, the total area of 0.22 million hectares of virgin lands were alloted to 41 private firms and 0.07 million hectacres have been planted so far.

© Due to the climatic and soil conditions of Myanmar, oil palm can be planted commercially. Moreover, required land potential is available for the expansion of oil palm plantation.

Oil Palm Production in Myanmar

Year	Sown Area (000[1] Ha)	Yield (mt/ha)	Production (000' MT)
2002-2003	36	3.01	24
2003-2004	46	3.05	27
2004-2005	54	2.22	22
2005-2006	67	2.46	32
2006-2007	82	2.39	49
2007-2008	93	2.47	58
2008-2009	102	2.04	59
2009-2010	112	2.13	69
2010-2011	125	2.47	93
2011-2012	134	3.09	121
2012-2013	144	3.37	134
2013-2014	148	3.28	138

Coffee Production in Myanmar

Year	Sown Area (000' Ha)	Yield (mt/ha)	Production (000[1] MT)
2001-2002	9	0.50	2
2002-2003	9	0.51	3
2003-2004	11	0.53	3
2004-2005	14	0.56	4
2005-2006	18	0.57	4
2006-2007	22	0.59	5
2007-2008	23	0.66	6
2008-2009	24	0.66	6
2009-2010	24	0.67	7
2010-2011	25	0.68	7
2011-2012	25	0.69	8
2012-2013	20	0.70	8
2013-2014	20	0.71	8

Tea Production in Myanmar

Year	Sown Area (000[1] Ha)	Yield (mt/ha)	Production (000' MT)
2001-2002	73	0.99	68
2002-2003	74	0.99	70
2003-2004	77	1.04	75
2004-2005	79	1.06	77
2005-2006	82	1.08	80
2006-2007	85	1.11	85
2007-2008	87	1.15	88
2008-2009	90	1.18	92
2009-2010	93	1.20	94
2010-2011	95	1.21	96
2011-2012	96	1.20	94
2012-2013	91	1.20	96
2013-2014	94	1.20	98

AGRICULTURAL INPUTS

LAND

IRRIGATION

MACHINERY

OTHER INPUTS

AGRICULTURAL LAND

® One fourth of total area is culturable land in Myanmar. During the colonial period, the government undertook area expansion works aiming at more export earning from agricultural products.

© The utilization of land in Myanmar in 2013-2014 is as shown below:

Land Utilization in Myanmar 2013-2014(Actual)

	Mil Ha	Percent
Net Sown Area	11.87	17.5
Fallow land	0.46	0.7
Culturable Waste Land	5.28	7.8
Reserved Forests	18.60	27.5
Other Forests	14.84	21.9
Other	16.61	24.6
Total	**67.66**	**100.0**

© Presently, there are about 11.87 million hectares of net sown area in Myanmar. For the expansion of new agricultural land, remaining 0.46 million hectares of fallow land and 5.28 million hectares of culturalble waste land, can be developed.

® Most of agricultural land, which is about 3.64 million hectares, are currently cultivated by small-scale farmers. The total cultivated average size of holding is 2.21 hectares. About 27% of the total sown area of 13.7 million hectares are small scale farms which average size is under 2.02 hectares.

® Development of agricultural land includes :

reclamation of fallow and culturable waste land;

development of farmers' and

protection of soil erosion and development of terrace farming in high-land areas.

® Land improvement is also being undertaken in the existing agricultural land through proper drainage, irrigation and farm roads. Apart from the traditional small-scale crop cultivation, development of modernized large scale agricultural farming by the private sector is being encouraged.

© For the suitableness with multi-party democracy system and market-oriented economy, two land laws, namely, Agriculture Land Law and Land Management Law for Culturable Land, Fallow Land and Waste Land, were legislated by the approval of Union Parliament in March 2012. These laws were developed by improving and modifying the old land laws which had been practiced and valid for a long time. According to these laws, existing farmers or peasants have to do official registration for the land plots on which they are currently enterprising. And after that they become to have rights to own, mortgage, heir, rent, exchange, and other economic practices. When compared with old land laws, new ones look so motivating the farmers that they would enjoy real ownership sense and as a result this would be a pushing factor for the increase of agricultural production. In 2013, Law of Protecting Rights and Enhancing Economic Welfare of Farmers was enacted.

© National companies and associations in private sector are encouraged and granted rights to develop virgin land and fallow lands for the cultivation of paddy, pulses, oil crops, industrial crops, rubber, oil palm, and other crops. At present, 377 private companies have been granted 0.94 million hectares for commercial farming.

Granted Area to National Entrepreneurs for Large-scale Commercial Farming(31-3-2014)

State/Region	Company	Granted Area(Ha)
Naypyitaw	6	4,126
Kachin	113	371,715
Kay in	1	409
Sagaing	30	162,626
Tanintharyi	41	126,464
Bago	14	5,758
Magwe	19	35,835
Mandalay	10	7,190
Yangon	9	5,460
Yakhine	10	45,487
Shan	65	85,427
Ayeyarwady	59	89,187
Total	**377**	**939,683**

® Apart from the above scheme, modern upland farm reclamation project is being undertaken to meet the following objectives:-

Replacing slash and burn method with tarrace farming,

Enabling the people in hilly regions to live in parmanent settlements,

Eliminating cultivation of opium poppy through tarrace farming to improve the living standard of the people in hilly regions, and

Preserving and protecting natural environment.

Land Reclamation for Tarrace Farming in Upland Area
(End of March, 2014)

(hectare)

Region		Govt.	Farmers	Total
1	Shan(North)	3,199	1,538	4,737
2	Shan(East)	1,272	1,249	2,520
3	Shan(South)	1,890	1,159	3,048
4	Chin	1,225	1,767	2,993
	Total	**7,586**	**5,713**	**13,298**

PROVISION OF SUFFICIENT IRRIGATION WATER

© At present, only about 6% of the total water resources of 870 million acres feet per annum are being utilized annually. The measures for Irrigation development are:-

1. Construction of new reservoirs and dams,
2. Proper management for the storage and utilization of run-off water from the watershed areas,
3. Renovation of existing reservoirs for raising storage capacity and efficient delivery of irrigation water,
4. Diversion of water from streams and rivulets, during high water levels into adjacent ponds or depressions for storage with sluice gates,
5. Lifting water from rivers and streams through pump irrigation; and
6. Efficient utilization of ground water.

® After 1988, the Government put forward continuous efforts in the construction of dams and reservoirs throughout the country by utilizing large capital investment, man power and machineries making use of the available domestic resources and expertise. As a result, local irrigation facilities have been constructed in respective regions throughout the country.

© Before 1988, total irrigated area of the country was 0.54 million hectares. Up to the end of March 2014, 240 of irrigation dam projects have been completed, further increasing the irrigable area of 1.15 million hectares.

© Rural water supply is effective to 15 million rural populace out of 41.8 million of the country.

© Irrigation coverage increased from 12.5% of the sown area in 1987-1988 to 16.1 % in 2013-2014.

Dam Project	Number	Effected Area(Ha)
♦ Before 1988	138	540,752
♦ After 1988	240	1,154,899

Completed Irrigation Works and Irrigated Area After 1988 By State And Region

S.N	State/Region	Number of Works	Irrigated Area (Hectare)
1.	Kayah	2	1,275
2.	Kay in	1	40
3.	Chin	1	202
4.	Sagaing	26	152,871
5.	Tanintharyi	1	Water Supply
6.	Bago	51	364,415
7.	Magwe	48	122,009
8.	Mandalay	56	165,163
9.	Mon	11	46,054
10.	Rakhine	6	2,610
11.	Yangon	20	123,308
12.	Shan	7	46,468
13.	Ayeyarwaddy	10	130,482
	Total	**240**	**1,154,899**

River Pumping Irrigation and Ground Water Exploration

- Pumping stations based on the availability of water resources from rivers and creeks and tube wells where groundwater potentials are feasible are being constructed and implemented for irrigation water supply since in 1994.
- In order to streamline such river pumping and groundwater development activities the government established the "Water Resources Utilization Department (WRUD)" in 1995, by merging Rural Water Supply Division (RWSD) of Agricultural Mechanization Department (AMD) and Groundwater Division of ID together with civil and mechanical personal from ID, both are under the Ministry of Agriculture and Irrigation.

Pump Irrigation

- Water Resources Utilization Department, since its establishment in 1995, has had tangible achievement of installation 327 river pumping stations including 26 special pumping projects to irrigate some 201,095 hectares.

Pumping Projects	**Number**	**Beneficial Area(ha)**
Pump irrigation from rivers	**327**	**201,095**
- Special-pumping	26	88,507
- Electric-pumping	113	67,531
- Diesel-pumping	188	45,057

Tube wells for groundwater

- Groundwater facilities of 7,734 deep tube wells and 4,524 shallow tube wells were completed covering the beneficial area of 65,695 hectares.

Underground water for agriculture	**12,258**
- Deep Tubewells	7,734
- Shallow Tubewells	4,524

Constructed River Water Pumping Projects

S.N	State/Region	Number of Works	Beneficial Area (Hectare)
1.	Kachin	5	850
2.	Kayah	3	1,915
3.	Kayin	6	3,480
4.	Sagaing	56	55,506
5.	Tanintharyi	11	850
6.	Bago	56	22,134
7.	Magwe	51	34,847
8.	Mandalay	76	48,325
9.	Mon	5	1,578
10.	Rakhine	4	324
11.	Yangon	24	13,337
12.	Shan	4	1,913
13.	Ayeyarwaddy	26	16,037
	Total	**327**	**201,095**

Constructed Groundwater Irrigation Projects

S.N	State/Region	Number of Works	Beneficial Area (Hectare)
1.	Kachin	44	108
2.	Kayah	5	15
3.	Sagaing	2,856	21,095
4.	Bago	712	3,382
5.	Magwe	1,298	4,271
6.	Mandalay	5,957	31,577
7.	Yangon	566	1,672
8.	Shan	14	81
9.	Ayeyarwaddy	806	3,495
	Total	**12,258**	**65,695**

Tube wells for domestic water supply

© The Rural Water Supply Division (Predecessor of Water Resource Utilization Department) dug shallow and deep tube wells for drinking water supply across the nation from 1952 to 1995.

© Water Resource Utilization Department(WRUD) has been continuing to develop drinking water supply activities throughout the country since its establishment in 1995. A total of tube wells drilled for drinking purpose and the data up to date from 1952 and 1995 are as shown below.

Period	Deep tube well	Shallow tube well	Total tube well	Rural Population
1995*-2014	2,770	10,440	13,210	3,114,300
1952 -2014	14,831	23,648	38,479	14,988,518

*** WRUD established in 1995**

Application of Gasifier to save energy and environmental conservation

© WRUD has been applying and installing rice husk based gasifier and gasifier engines in pumping projects with the aims of saving foreign exchange, environmental conservation, saving national grid and applying renewable energy as well as supply and generate for the place of insufficient power in other areas difficult to reach. The replacement of gasifier is being implemented in completed and ongoing diesel engine pumping projects. Thus dual type gasifiers (Type-1, one third of diesel plus two third of rice husk) with affiliated use of 25 KW engine and single type (Type-2, Type-3, Type-4) gasifier (100% rice husk) with affiliated use of 110 KW engines, 232 KW engines have been installed from the beginning of 2008-2009 to 2011-2012. The total installation of 110 gasifiers is contributing to irrigation farmland of 17,345 ha. These 110 gasifiers including 86 dual type gasifiers with 25 KW engine and 34 single type gasifiers with 50 KW, 140 KW and 232 KW engines have been installed in 2011-2012 fiscal year. With advantages such as saving national grid, greening environment, helping to illuminate the village and new advanced methods and technologies for production of gasifier.

L

Irrigated Area
(Dam and Water Pumping)

Year	Net Sown Area (mil Ha)	Irrigated Area (mil Ha)	Percent
1987-1988	7.99	1.00	12.5
1996-1997	9.28	1.56	16.8
1998-1999	9.67	1.69	17.5
2001-2002	10.65	1.99	18.6
2002-2003	10.82	1.87	17.3
2003-2004	11.04	1.96	17.7
2004-2005	11.41	1.93	16.9
2005-2006	11.94	2.14	17.9
2006-2007	12.61	2.24	17.8
2007-2008	13.22	2.22	16.8
2008-2009	13.49	2.28	16.9
2009-2010	13.64	2.33	17.1
2010-2011	13.75	2.29	16.7
2011-2012	13.58	2.11	15.5
2012-2013	13.30	2.12	15.9
2013-2014	13.26	2.13	16.1

AGRICULTURAL MECHANIZATION

® Since colonial era, research activities for the utilization of farm machineries were made to reduce manpower and use of draught cattles. However, it was not fully realised due to lack of experience and research.

© After independence, agricultural mechanization schemes were made through distribution of machineries, production of farm machineries adaptable to Myanmar agricultural land for land expansion and development and tilling work in planned cropping area.

© In addition to the state sector activities, private sector participation is also increasing by utilizing the farm machineries and equipments for various activities of agricultural production.

Utilization of Machneries and Farm Implements in Myanmar (2013-2014)

Type of Machinery	Number
Tractor	11,839
Mini Tractor	1,506
Powertiller	257,971
Cultivating Roller Boat	5,403
Threshing machine	55,104
Combine Harvester	668
Transplant machine	122

© Increased cropping intensity has expanded the use of machineries in agriculture from land preparation to harvesting and post-harvest activities. Required machineries are being produced and assembled locally or imported for distribution to the farmers.

© Efforts are being made to totally eliminate the traditional way of threshing paddy on the threshing floor, through the introduction of threshers and combine harvestors.

- 23 model mechanized villages were established throughout the country to demonstrate the farmers on benefits of farm mechanization.
- Land development activities for the transformation from conventional agriculture to mechanized agriculture are being undertaken as follows:-
  (a) Construction of farm-land roads
  (b) Construction of canals and drainages for irrigation purpose
  (c) Transforming small plots to one acre plots
  (d) Facilitating the purchasing process by introducing installment system for agricultural machineries in order to have access and affordability by farmers

® Farm mechanization has benefited the farmers in terms of time, labour and human energy savings. In addition, it has contributed to increased cropping intensity of the country. Chopping intensity has increased from 132.7% in 1996-1997 to 161.1% in 2013-2014.

Cropping Intensity

Year	Net Sown Area (mil ha)	Total Sown Area (mil ha)	Cropping Intensity (Percent)
1996-1997	9.28	12.31	132.7
1998-1999	9.67	13.31	137.6
2001-2002	10.65	15.85	148.7
2002-2003	10.82	16.15	149.2
2003-2004	11.04	16.62	150.5
2004-2005	11.41	17.43	152.7
2005-2006	11.94	18.75	157.1
2006-2007	12.61	20.41	161.8
2007-2008	13.22	22.12	167.2
2008-2009	13.49	22.96	170.2
2009-2010	13.64	23.36	171.2
2010-2011	13.75	23.57	171.4
2011-2012	13.58	22.50	165.6
2012-2013	13.29	21.05	158.3
2013-2014	13.26	21.37	161.1

Transforming Conventional to Mechanized Agriculture

© Transformation from conventional to mechanized agriculture is being carried out for the increase of crop production as well as for the reduction of losses and wastages by increasing utilization of agricultural machineries along the production process, from land preparation to harvesting.

© Establishment of modern-mechanized farms throughout the country will create opportunity for farmers to increase their productivity by growing double and multiple crops. It will be not only the quick win for farmers through increase of crop production but also for the increase of per capita income and job opportunities.

© In this context, there are 10,019 hectares of model mechanized farm, consolidating the farms land as acre or hectare plots, established in 6 townships in Nay Pyi Taw Council area and other States and Regions, during recent three years.

Systematic Mechanized Farms established in Recent Three Years (2011-12 to 2013-14)

Hectares

State and Region	2011-2012	2012-2013	2013-2014
Kachin	.	.	226
Kayah	-	4	44
Kayin	-	61	47
Sagaing	32	233	57
Thanintharyi	-	-	40
Nay Pyi Taw	577	1724	1310
Bago (East)	1066	408	579
Bago (West)	48	332	44
Magwe	85	49	62
Mandalay	170	338	170
Mon	40	57	42
Rakhine	40	40	40
Yangon	1118	404	147
Shan (South)	.	.	40
Ayeyarwaddy	112	145	84
Total	**3291**	**3794**	**2934**

PROVISION OF OTHER AGRICULTURAL LOANS

® Provision of various crop loans for different cultivation seasons i.e pre-monsoon, monsoon and winter season are being made by the Myanma Agricultural Development Bank (MADB).

© Similary medium and long-term loan for agricultural development programs are also available. In 2012-2013 total amount of loans to farmers by MADB is about 557,846.54 million kyats.

© MADB has increased step by step the amount of seasonal loan for paddy from 20,000 kyats to 100,000 kyats per acre during 3 years, from 2010 to 2013. Also Seasonal loan amount for sugarcane has been increased from 20,000 to 100,000 kyats per acre in 2012.

© During 2013-2014 fiscal year, total loans provided by MADB up to end of March 2014 was 1,158,728.58 million kyats covering 80.58 % of planned target 1,438,000 million kyats.

ON-GOING INTERNATIONAL ASSISTANCE IN AGRICULTURE SECTOR

Bilateral
Unilateral
Regional
Multilateral
INGOs

ON-GOING INTERNATIONAL ASSISTANCE IN AGRICULTURE SECTOR

Bilateral Assistance and Cooperation

China

- Mini-hydro Power (RMB 31.99 m)
- Irrigation Network (RMB 51.86 m)
- Household Bio-gas Facilities (RMB 2.45 m)
- Agriculture Demonstration Center (RMB 40 m)
- MOU btw. Northwest A&F University and Yezin Agricultural University
  MOU btw. MOA (China)

India

- Advance Center for Agricultural Research and Education (ACARE) Centre (US$ 8.71 m)
- Rice Bio-park (US$ 0.23 m)
- Cardamom Production in Nagaland
  MOU with ACARE

Thailand

MOU with MOAC (Thai)

- MOU with MNRE (Thai)

Vietnam

MOU with MOARD (Viet)

Cambodia

MOU with MAFF (Cam)

Bangladesh

- MOU with MOA (Bangladesh)

Belarus

- MOU with MAF

Egypt

- MOU with MO A

Philippines

- MOU with DOA (Philippine)

Korea

- MOU with MAFRA

Taiwan

- MOU with MO A (Taiwan)

Malaysia

- MOU **with** MAI **(Malaysia)**

Unilateral Assistance and Cooperation

JICA (Japan)

- Quality Rice Seed (US$ 4.8 m)
- Disaster Management (US$ 9.6 m)
- Flood Control (US$ 14.51 m)
- Water Saving (US$ 5 m)
- Food Security Project for Under Privileged Farmer (2KR-2012) (Y 23 0 mil)
- Human Development Institution in Agriculture (US$ 13.69mil)

KOICA (Korea)

- Post-harvest T echnology (US$ 3.5 mil)

- Saemual Undong in Myanmar(US$ 22 mil)
- Post-harvest Research (US$ 4.5 mil)
- Farm Land Consolidation (US$ 6 mil)

KRC (Korea)

- Rural Development and Farming Technology Transfer (US$ 2.478 mil)

RDA (Korea)

- MOU on Biotech & Genetic Resource
- MOU on Leguminous Crops
- Multilateral Assistance and Cooperation

CIRDAP (Bangladesh)

- Rural Development, Training & HRD

ICRISAT (India)

- Technology on pulses and HRD

IRRI (The Philippines)

- Rice R&D

IFAD (UN)

- Poverty and Food Security
- Fostering Agricultural Revitalization in Myanmar (FARM) US$ (18.7) Loan type

Regional Assistance and Cooperation

ASEAN

- **ASEAN-Australia**
  GAP (fruits & veg.)

- **ASEAN-Japan**
  - CB (CLMV)

- **ASEAN-EU**
  Plant health and plant protection product

- **ASEAN-German**
  Asean biocontrol project

- ASEAN-WTO
  Pesticide Residue Data Generation Project

- ASEAN-Korea
  Real Time AFSIS

- ASEAN-India
  - HRD, Information

- ASEAN+3
  - AFSIS (Thailand)

- ASEAN+3
  - APTERR (Thailand)

- ASEAN
  - AFSRB (Thailand)

- ASEAN-China
  - TC on Agri. and Forest
  - SPS

GMS (China, Cambodia, Laos, Myanmar, Vietnam, Thailand)

- Rice IPM
- Maize IPM
- Yunnan Academy of Agricultural Sciences
- CBTA (Perishable goods)

Multilateral Assistance and Cooperation

FAO(UN)

- Support to the Development of Hybrid Rice Project (US$ 0.23 mil)
- Emergency Support to Affected Communities in Rakhine State Project (US$ 0.5 mil)

UNDP

- UN Strategic Framework of Cooperation in Myanmar (2012-2015)

UN-Habitat

- Land Administration and Management Programme-LAMP(US$ 2.209 mil)

Asian Development Bank (ADB)

- Interim Country Partnership Strategy
- CB Support for Project Identification

World Bank

- Agriculture Development Support Project (ADSP) (US$ 100 mil)(Loan type)

INGOs

CDN (Consortium Dutch NGO's)(Netherlands)

- Irrigation, Post Disastrous Resettlement, Food Security, Community Development
  - (8 TS—Mandalay, Ayeyarwady, Shan, Rakhine) (US$ 3.3 m)

ICF (Int'l Com Foundation)(ROK)

- Seed, HRD, Corn Production
  - (4 TS—Mandalay, Shan) (Support Technologies)

MCFTC

WHCFM(World Headquarters of Cannan Farmers' Movement Corporation)

HRD, CB

- (1 TS—Mandalay) (Technology)

OISCA (Org. for Industrial, Spiritual and Cultural Adv.)(Japan)

- HRD, Environmental, Agro-Forestry Training Center
  - (1 TS—Magway) (TC)

GRET (Group of Research and Exchange Technologies) (French)

- CB, Livelihood, Natural Resources Management, Food Security
  - (10 TS—Chin, Sagaing, Ayeyarwaddy) (US$ 5.4 mil)

2014

Myanmar Agriculture *in Brief*

ON-GOING AGRICULTURAL PROJECTS IMPLEMENTED BY MINISTRY OF AGRICULTURE AND IRRIGATION IN 2013-2014

AGRICULTURAL GRANT PROJECTS
IMPLEMENTED BY MINISTRY OF AGRICULTURE
AND IRRIGATION IN 2013-2014 (ON GOING)

Name of Projects	Amount (Million)	Implementing Agency	Funding Source	Duration	Location
Agriculture and Rural Development Adviser	T.A	DAP	JICA	2013-2015	Nay Pyi Taw
The Project for the Post-harvest Technology Assistance for the Myanmar Agricultural Products	US$ 3.500	DOA	KOICA	2011-2014	Mandalay
Saemaul Undong in Myanmar	US$ 22.000	DOA	KOICA	2014-2019	Yezin
Establishment of Post Harvest Research Institute in Myanmar	US$ 4.500	DOA	KOICA	2013-2016	Yezin
Project for Rural Development and Farming Technology Transfer in Myanmar	US$ 2.478	DOA	KRC	2013-2016	Yangon
Project on Development of Participatory Multiplication and Distribution System for Quality Rice Seed	T.A	DOA, DAR	JICA	2011-2016	Nay PyiTaw
Emergency Support to Affected Communities in Rakhine State	US$ 0.500	DOA	FAO	2013-2014	Rakhine
Improvement of Post-Harvest Technology and Seed Production in Myanmar	US$ 0.112	DOA	ABC, UFLA	2014	

Name of Projects	Amount (Million)	Implementing Agency	Funding Source	Duration	Location
(a) Diversification & Intensification of Rice-based System in Lower Myanmar	AS 1.960	DOA,DAR	ACIAR	2012-2016	Ayeyar-waddy,Bago
(b) Increasing Production of Legume-based Farming System in the Central Dry Zone of Myanmar	A$ 0.752	DAR,DOA, YAU	ACIAR	2013-2016	Mandalay, Sagaing, Magway, Nay Pyi Taw, Bago, Yangon
(c) Strengthening Institutional Capacity, Extension Services and Rural Livelihoods in the Central Dry Zone and Ayeyarwaddy Delta regions of Myanmar Project	AS 1.980	DAR, DOA,	ACIAR	2013-2016	Mandalay, Sagaing, Magway, Ayeyarwaddy
Implement Program of Integrated Post Disastrous Resettlement Food Security and Community Development Project	us$ 3.300	DOA	CDN	2012-2015	Shan, Rakhine, Mandalay, Ayeyar-waddy
Agro-Forestry Training Center Program	-	DOA	OISCA	1996-2015	Magway
Household Biogas Facility	Yuan 2.450	DoA	China	2014-2015	Mandalay, Nay Pyi Taw
Improve Food Security and Livelihood and Natural Resources Management Effectively	us$ 5.495	DOA	GRET	2013-2016	Ayeyarwaddy Sagaing, Magway,Chin
Land Administration andManagement Programme-LAMP	USS 2.209	SLRD	UN-HABITAT	2014-2016	Bago, Mandalay

SN	Name of Projects	Amount (Million)	Implementing Agency	Funding Source	Duration	Location
15.	The Project for Farmland Consolidation andAgricultural Machinery Training for Agricultural Mechanization	US$ 6.0	ID, AMD	KOICA	2013-2016	Nay Pyi Taw
16.	Grant Assistance on the Food Security Porject for Under privileged Farmers 2KR 2013	Yen 230	AMD	JICA	2013-2017	Nay Pyi Taw **Ayeyarwaddy, Bago,Magway, Sagaing, Shan,** Mandalay
17.	Food Security Porject for Under privileged Farmers-2KR 2012	Yen 230	AMD	JICA	2013-2017	Nay Pyi Taw **Ayeyarwaddy,** Bago, Yangon, Mandalay
18.	Myanmar Cannan Kyats Farmer's Training Center Program	838.524	DICD	WCM	2000-2018	Mandalay
19.	Project for Development of Water Saving Agriculture Technology in Central Dry Zone	Technical	DAR, DOA	JICA	2013-2018	Mandalay, Nay Pyi Taw, Magway
20.	Development of Technical Agriculture Technology and Production of Corn		DAR	ICF	2010-2015	Nay Pyi Taw, Shan
21.	Support to the Development of Hybrid Rice in Myanmar) (TCP/MYA/3403)	US$0.23	DAR, DOA	FAO	2013-2015	Nay Pyi Taw Mandalay, Sagaing,Bago, **Ayeyarwaddy,** Rakhine, Magway, Yangon
22.	Project on Establishment of Advanced Centre for Agricultural Research & Education -ACARE	US$ 6.72	YAU	India	2012-2017	Nay Pyi Taw
23.	Project on setting up of Rice-Bio Park	US$ 1.6	YAU	India	2012-2015	Nay Pyi Taw

SN	Name of Projects	Amount (Million)	Implementing Agency	Funding Source	Duration	Location
24.	Porject for Strengthing Human Development Institution in Agriculture	Yen 1008	DAR, DOA,YAU	JICA	2013-2016	Nay Pyi Taw Yangon
25.	Yezin Agricultural University - YAU and MOKPO National University - MNU on the Academic Exchange Activities)	USS 0.463	YAU	MNU	2013-2015	Nay Pyi Taw

AGRICULTURAL LOAN PROJECTS IMPLEMENTED BY MINISTRY OF AGRICULTURE AND IRRIGATION IN 2013-2014 (ON GOING)

SN	Name of Projects	Amount (Million)	Implementing Agency	Funding Source	Duration	Location
1.	Oilcrops Development Project	US$ 12.3	DOA	OFID	2006-2014	Mandalay, Magway, Sagaing, Nay PyiTaw, Shan, Bago, Ayeyarwaddy, Tanintharyi
2.	Irrigation Development for Kanyin Dam Project	US$ 8.0 (Reyard 30)		SFD	2008-2011	Ayeyarwaddy

MAIN FUNCTIONS OF DEPARTMENTS

UNDER THE MINISTRY OF AGRICULTURE AND IRRIGATION

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MINISTER'S OFFICE

Administrative Tasks

DEPARTMENT OF AGRICULTURAL PLANNING

(1) Assistance in adopting agriculture policies
(2) Formulation of various agricultural plan
(3) Relations with international, regional organizations and governments
(4) Strengthening cooperation and coordination among inter-agencies
(5) Development of agricultural trade and investment
(6) Reporting and compilation of agricultural statistics
(7) Conducting related surveys
(8) Recommendation for further development of agriculture sector
(9) Collection and dessemination of wholesale prices of agricultural commodities

DEPARTMENT OF AGRICULTURE

(1) Production of good quality seed varieties for main crops which are rice, seed corn, groundnut, sesame, sunflower, mustard, niger, pulses, culinary crops such as chilli, onion, garlic, potato, vegetables and fruits for economy development of farmers and conducting trainings for farmers to produce good quality seed.
(2) Organize training on advanced agricultural technologies and cultural practices of above mentioned crops in order to facilitate for application and innovation, of these techniques by farmers.
(3) Conduct research on scientific cultural practices and development in order to produce good quality and high yielding seeds.

IRRIGATION DEPARTMENT

(1) Design formulation for new irrigation projects based upon hydrological and geological investigations and topographic survey data
(2) Planning and implementation of new irrigation projects
(3) Operation and maintenance of existing irrigation and drainage systems, flood protection embankments and polders
(4) Seasonal and temporary measures for summer paddy cultivation
(5) Technical assistance to village embankment and village irrigation works for rural development
(6) Installation of micro-hydro power generation plants along the irrigation canals
(7) Providing the on-farm water management development training for Farmers' Water User Association
(8) Conducting the training for capacity building of irrigation staff to enhance the irrigation technologies

AGRICULTURAL MECHANIZATION DEPARTMENT

(1) Land reclamation, land consolidation and land development works
(2) Provision of farm mechanization services on land preparation, harvesting and threshing
(3) Production and distribution of appropriate farm machineries
(4) Research and development on utilization of agricultural machinery
(5) Implementation of up-land reclamation in hilly regions
(6) Dissemination of technical know-how on utilization of farm machinery to local farmers and production technologies to private industries

SETTLEMENT AND LAND RECORDS DEPARTMENT

(1) Updating land maps and registers
(2) Land surveys and map productions
(3) Collection compilation and issuing timely and reliable crop statistics
(4) Collection and compilation of land use statistics
(5) Land administration and decision on agricultural land disputes
(6) Conducting agricultural socio-economic surveys

WATER RESOURCES UTILIZATION DEPARTMENT

(1) To supply irrigation water by pumping water from river and streams and also utilization of underground water from feasible potential for boosting crop production
(2) To promote the socio-economic conditions of rural population by supply safe drinking water from both tube wells and piped water supply reticulation systems
(3) To supply crop water as well as drinking water from spring sources by gravity flow systems in the mountainous region of the border and remote areas, and to examine water quality for drinking and irrigation purposes applying high technology, water analysis methods
(4) To disseminate the knowledge and practice of efficient usage of drip irrigation
(5) To apply renewable energy, being installed Biomass Gasifier in river water pumping facilities

MYANMAR AGRICULTURAL DEVELOPMENT BANK

(1) Lending seasonal, short, medium and long term loans to farmers
(2) Collecting repayment of bank loans
(3) Encouraging farmers to open deposit and saving accounts at MADB

DEPARTMENT OF AGRICULTURAL RESEARCH

(1) Research development on high yielding crop varieties
(2) Generation of agricultural techniques for maximization of benefits and sustainable use of natural resources and conservation and utilization of crop genetic resources
(3) Dissemina tion of improved crop varieties and agronomic technologies to farmers
(4) Development of human resources in agricultural research

YEZ1N AGRICULTURAL UNIVERSITY

(1) To produce highly qualified agriculturalists needed for the development of the agriculture sector of the country
(2) To provide adequate technical training on modern methods of agriculture
(3) To provide sound training to students who wish to engage in scientific farming as means of livelihood through co-operatives or private enterprises

DEPARTMENT OF INDUSTRIAL CROPS DEVELOPMENT

(1) To produce and provide the high-yielding varieties and good quality seeds of other industrial crops in addition to the production of main industrial crops such as sugarcane, cotton, jute, rubber, oil palm, cashewnut and coffee.
(2) To provide the systematic utilization of GAP methods in accordance with the respective industrial crops, educative activities have been carried out in different regions through conducting training, field days and demonstration of model farms.
(3) To carry out continuous research activities on improvement of GAP methods compatible with respective regional ecological conditions in order to produce adaptable varieties and good quality seeds.

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