# System of Rice Intensification in the Indian Parliament

http://164.100.24.209/newls/maindet.asp

The following items were found on the website of the parliament, going to, respectively, the Lok Sabha or Rajya Sabha, doing search questions and filling in “system of rice intensification” for a full text search. Below are the results in the list, and further below are the full texts, plus weblinks. (All references to SRI have been highlighted)

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GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE

LOK SABHA

STARRED QUESTION NO 163
TO BE ANSWERED ON 05.12.2005

CHANGES IN EXISTING FARMING SYSTEM

163. SHRI JIVABHAI AMBALAL PATEL
      KASHI RAM RANA

Will the Minister of AGRICULTURE be pleased to state:-

(a) whether the Government proposes to bring about changes in the existing system of farming practices;

(b) if so, the aspects of farming practices on which attention is to be paid in the new policy;

(c) whether farmers in certain areas are supplying more than the required quantity of fertilizers and pesticides;

(d) if so, whether any agency is to be involved in educating the farmers for optimal use of ground water and growth oriented resources so that agriculture may be more viable; and

(e) if so, the details thereof?

ANSWER
MINISTER OF AGRICULTURE (SHRI SHARAD PAWAR)

(a) to (e): A statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF LOK SABHA STARRED QUESTION NO. 163 DUE FOR REPLY ON 5TH DECEMBER, 2005.

(a)&(b): The Government is promoting sustainable and resource conserving farming practices like zero tillage, raised bed planting, system of rice intensification, efficient water management, in situ moisture conservation in rainfed areas, integrated nutrient management and integrated pest management besides cultivation of hybrids/improved varieties of crops.

(c): The per hectare consumption of chemical fertilizers in the country is still around 90 kg per hectare which is far less than that of many developed countries. However in many
areas, there is imbalance use of fertilizers and micro-nutrients. As regards application of
pesticides, its improper use is being reported. Programmes such as Integrated Pest
Management (IPM) and Integrated Nutrient Management (INM) is underway to remedy
these failings.

(d)&(e): The Department of Agriculture & Cooperation and its agencies, the State
Departments of Agriculture, State Agriculture Universities, Institutes of Indian Council
of Agricultural Research, Krishi Vigyan Kendras and other institutions are involved in
educating the farmers about improved farming practices, including use of INM and IPM
practices

http://164.100.24.208/lsq14/quest.asp?qref=21128
363. CHAUDHARY MUNAWWAR HASAN

Will the Minister of AGRICULTURE be pleased to state:-

(a) the total production of rice during the last three years in the country, variety-wise;

(b) the total quantum of rice consumed in the country at present;

(c) whether the production of rice is sufficient to meet the demand;

(d) if not, the steps being taken to increase the production of rice in the country; and

(e) the total quantum of rice exported during the last three years alongwith the reasons for such export despite its shortage in the country?

ANSWER

MINISTER OF AGRICULTURE (SHRI SHARAD PAWAR)

(a) to (e): A statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF LOK SABHA STARRED QUESTION NO. 363 DUE FOR REPLY ON 19TH DECEMBER, 2005.

(a): The total production of rice in the country during 2002-03, 2003-04 and 2004-05 is shown in the table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (Million Tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>71.82</td>
</tr>
<tr>
<td>2003-04</td>
<td>88.28</td>
</tr>
<tr>
<td>2004-05 #</td>
<td>85.31</td>
</tr>
</tbody>
</table>

# 4th advance estimates

However, variety-wise production data are not maintained.

(b): Based on the consumption data reported by National Sample Survey Organization, the consumption of rice at the all India level is estimated at about 82 million tonnes in 2005-06.

(c): Yes, Sir.

(d): Though we are meeting our domestic demand and also exporting, Government is implementing various schemes to increase productivity and area under paddy. These include the Macro Management Scheme of the Department of Agriculture & Cooperation (DAC), encouragement for improved variety of seeds including hybrids, improved
technologies for rice such as System of rice intensification (SRI), Zero Tillage and adoption of other resource conservation technologies.

(e): The quantum of rice exported during 2002-03, 2003-04 and 2004-05 is shown in the table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (000 tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>4967.87</td>
</tr>
<tr>
<td>2003-04</td>
<td>3412.10</td>
</tr>
<tr>
<td>2004-05</td>
<td>4772.00</td>
</tr>
</tbody>
</table>

http://164.100.24.208/lsq14/quest.asp?qref=21175
GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE

LOK SABHA

UNSTARRED QUESTION NO 760

TO BE ANSWERED ON 28.11.2005

INTERNATIONAL YEAR OF RICE

760. SHRI DHANUSKODI ATHITHAN

PUSHPDAN SHAMBUHAN GADHAVI

Will the Minister of AGRICULTURE be pleased to state:-

(a) whether the United Nation General Assembly had declared the year 2004 as the International Year of Rice;

(b) if so, the measures taken by the Indian Government in pursuance thereof and the results achieved therefrom;

(c) whether any initiatives were made by the Government to invest in high yield varieties of rice, introduction of appropriate technology for post-harvest and pre-harvest machines and education of farmers on modern crop management methods; and

(d) if so, the details thereof and the achievements made in this regard?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND MINISTER OF STATE IN THE MINISTRY OF CONSUMER AFFAIRS, FOOD & PUBLIC DISTRIBUTION (DR. AKHILESH PRASAD SINGH)

(a) & (b): The Government of India undertook a number of activities for observing year 2004 as International Year of Rice to promote rice cultivation in the country. These included, organizing national Science Day and Quiz on Rice in India for school children, holding of national and international symposia, seminars, conferences, etc. Celebration of International Year of Rice helped in motivating farmers and State/UT Governments to improve rice productivity and in popularization of hybrid rice and the system of rice intensification (SRI) technology.

(c) & (d): The Indian Council of Agricultural Research – State Agricultural Universities System are responsible for development of rice hybrids and high yielding varieties. A
large number of rice varieties have been released in last two years. These include Dhanrasi, Shanti, Mugad Sugandh, Sweta, CSR23, Sukara Dhan-I and Sumati. Further, three rice hybrids viz., Suruchi 5402, Pant Sankar Dhan-3 and Narendra Usar Sankar Dhan were also released for cultivation.

The ICAR has designed and fabricated a prototype for hitching mechanisms of the transplanter to the power tiller which is ready for trial. Further, Korean and Chinese transplanters were evaluated for planting hybrid rice. The Farm Machinery Training and Testing Institutes (FMT&TIs) imparted training in pre-harvest technology. The trainings on post harvest technology were conducted on operation of combine harvesters, self-propelled and tractor operated reapers, threshers, straw-reapers, cleaners, graders, etc.

The Central Government supported various schemes for education of farmers on modern crop management methods. Establishment of Agri-Clinic and Agri-Business centers was initiated in 2002-03. So far 2459 agri-ventres have been established. Further, during 2004-05, new schemes on Mass Media Support to Agriculture and Kisan Call Centres operating through toll free lines to provide expert advice to farmers were introduced. A new scheme, 'Support to State Extension Programme for Extension Reforms' to make extension system farmer accountable has been introduced.

http://164.100.24.208/lsq14/quest.asp?qref=31406
2229. SHRI BANSAGOPAL CHOWDHURY

Will the Minister of AGRICULTURE be pleased to state:-

(a) whether there is any System of rice intensification (SRI) cultivation methods;

(b) if so, the details thereof; and

(c) the action taken by the Government to increase the rice production by reducing usage of water and chemical fertilizers?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTI LAL BHURIA)

(a) to (c): The System of rice intensification (SRI) was developed in Madagascar in 1980s. SRI Technology uses less seed, fewer plants per unit area, less chemical fertilizer, more organic manures, less pesticides, and yields higher than conventional method of rice cultivation. In recent years, the Government has organized training, demonstrations and taken up evaluation study for promotion of SRI technology in the country in situations where it is feasible.

2775. SHRI JYOTIRADITYA MADHAVRAO SCINDIA

Will the Minister of AGRICULTURE be pleased to state:-

(a) whether the area under paddy cultivation has been declining year after year;

(b) if so, the reasons therefore along with the area under such cultivation during each of the last three years, State-wise; and

(c) the steps taken by the Government to increase the yield of paddy alongwith the success achieved as a result thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTI LAL BHURIA)

(a) & (b): The all-India area under paddy cultivation from 2003-04 to 2005-06 is given in the table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (`000 Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>42,592.5</td>
</tr>
<tr>
<td>2004-05</td>
<td>41,906.7</td>
</tr>
<tr>
<td>2005-06</td>
<td>43,659.8</td>
</tr>
</tbody>
</table>

During crop year 2004-05, rainfall from the South-West Monsoon was 13% less than its long period average, which resulted in decline in area under paddy during 2004-05 especially in Uttar Pradesh. State-wise area under paddy cultivation from 2003-04 to 2005-06 is given in the Annexure.

(c): In order to increase the productivity and production of rice (paddy) in the country, a Centrally Sponsored Scheme ‘Integrated Cereals Development Programme in Rice Based Cropping Systems Areas (ICDP-Rice)’ is under implementation under Macro Management Mode of Agriculture from October 2000. Under the scheme assistance is provided on 90:10 percentage sharing basis between Government of India and the States for propagation of improved production technology, hybrid rice production technology,
integrated pest management through field demonstrations, training of farmers, transfer of technology through electronic media and published literature, farm implements, installation of sprinkler irrigation system, varietal replacement and production of certified seeds. Besides, Frontline Demonstrations are also organized by the Indian Council of Agricultural Research (ICAR) on farmers’ fields on 100 percent GOI assistance.

The Government is also giving encouragement to improved technologies for rice such as **System of rice intensification** (SRI), Zero Tillage and adoption of other resource conservation technologies. As a result of these efforts, productivity of paddy has increased from 2979 kg/hectare in 1999-2000 to 3153 kg/hectare in 2005-06.

http://164.100.24.208/lsq14/quest.asp?qref=44283
GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE

LOK SABHA

UNSTARRED QUESTION NO 5555
TO BE ANSWERED ON 02.05.2005

PRODUCTION OF PADDY

5555. SHRI GOWDAR MALLIKARJUNAPPA SIDDESWARA

Will the Minister of AGRICULTURE be pleased to state:-

(a) the annual paddy production in the country during the last three years,
particularly from Karnataka;

(b) whether the cultivable land for paddy production is shrinking year after year in
the country, particularly in Karnataka;

(c) if so, whether the scarcity of rainfall and lesser amount of storage results in lower
output of paddy production.

(d) if so, the other main reasons for the lower output of paddy production;

(e) the amount of loss incurred by the farmers in Karnataka during the last three
years; and

(f) the steps taken by the Union Government to ensure adequate quantity of water
for the farmers and also to boost paddy production in the country, especially in
Karnataka?

ANSWER
THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND
MINISTER OF STATE IN THE MINISTRY OF CONSUMER AFFAIRS, FOOD AND
PUBLIC DISTRIBUTION (SHRI KANTILAL BHURIA)

(a) and (b) The area under paddy cultivation and production of paddy for Karnataka as
well as all India for the years 2001-02, 2002-03 and 2003-04 are shown in table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Item</th>
<th>Area—in Million hectares</th>
<th>Production—in Million tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-02</td>
<td>All India</td>
<td>44.90</td>
<td>140.01</td>
</tr>
<tr>
<td></td>
<td>Karnataka</td>
<td>1.42</td>
<td>4.85</td>
</tr>
<tr>
<td>2002-03</td>
<td>All India</td>
<td>41.18</td>
<td>107.73</td>
</tr>
<tr>
<td></td>
<td>Karnataka</td>
<td>1.15</td>
<td>3.59</td>
</tr>
<tr>
<td>2003-04</td>
<td>All India</td>
<td>42.50</td>
<td>132.42</td>
</tr>
<tr>
<td></td>
<td>Karnataka</td>
<td>1.15</td>
<td>3.77</td>
</tr>
</tbody>
</table>
The area and production of paddy in Karnataka show a declining trend over the last three years.

(c) and (d) The rainfall situation in Karnataka for the last three years is shown in the Statement, which shows that the rainfall during the monsoon period in Karnataka was below normal consecutively for 2001-02, 2002-03 and 2003-04. The availability of water in the reservoirs was also inadequate during this period. While the availability of adequate water is the main factor which affects the production of paddy, the other factors are appropriate temperature, timely availability of fertilizers, market price of the produce etc. The paddy production in Karnataka suffered because of successive drought during the last three years. As a consequence, farmers have diverted rainfed paddy area to other remunerative crops like maize and soyabean which also contributed to reduction in paddy area and paddy production.

(e) and (f) The loss in production (decrease in production over the previous year) suffered by the farmers in Karnataka during the last three years is shown in the table below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Food-grains</th>
<th>Oil-seeds</th>
<th>Sugar-cane</th>
<th>Cotton$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-02</td>
<td>2.29</td>
<td>0.52</td>
<td>9.91</td>
<td>0.24</td>
</tr>
<tr>
<td>2002-03</td>
<td>2.03</td>
<td>0.00</td>
<td>0.53</td>
<td>0.28</td>
</tr>
<tr>
<td>2003-04</td>
<td>0.03</td>
<td>0.04</td>
<td>166.85</td>
<td>0.01</td>
</tr>
</tbody>
</table>

$Million bales of 170 kgs. each.

In order to overcome the scarcity of irrigation water, System of Rice Intensification method of paddy cultivation is being popularised and encouraged in the state. Farmers are also being advised to grow other remunerative crops like pulses, oilseeds, cotton etc.

<table>
<thead>
<tr>
<th>Rainfall data of Karnataka for last three years (in mm):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Actual 2001-02</td>
</tr>
<tr>
<td>Normal</td>
</tr>
<tr>
<td>Actual 2002-03</td>
</tr>
<tr>
<td>Normal</td>
</tr>
<tr>
<td>Actual 2003-04</td>
</tr>
<tr>
<td>Normal</td>
</tr>
</tbody>
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http://164.100.24.208/lsq14/quest.asp?qref=34826
GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES

LOK SABHA

UNSTARRED QUESTION NO 722
TO BE ANSWERED ON 27.11.2006

RECHARGE OF GROUND WATER

722. SMT. JAYABEN B. THAKKAR

Will the Minister of WATER RESOURCES be pleased to state:

(a) whether the sub-committee of the Advisory Council of Artificial Recharge of ground water headed by Dr. Swaminathan has submitted its report to the Government;

(b) if so, the recommendations made in the report;

(c) whether all the recommendations of the committee has been accepted by the Government for implementation;

(d) if so, the details thereof and the action taken thereon; and

(e) if not, the reasons therefor?

ANSWER
THE MINISTER OF STATE IN THE MINISTRYOF WATER RESOURCES (SHRI JAI PRAKASH NARAYAN YADAV)

(a) & (b) Yes, Sir. During the inaugural address of the first meeting of the Advisory Council, Hon’ble Prime Minister mentioned that ‘We have to minimize our water use - invest in science and technology to ensure that we can grow crops which use less water. In other words, find ways of valuing the crop per drop’. To implement the suggestions of Hon’ble Prime Minister, a Sub-committee of ‘Artificial Recharge of Ground Water Advisory Council’ was constituted under the Chairmanship of Dr. M.S. Swaminathan to prepare paper on more crop and income per drop of water. The Committee has submitted its report to Ministry of Water Resources. Recommendations made by this Sub-committee have been summarized and given at Annexure.

(c) to (e) Artificial Recharge of Ground Water Advisory Council while constituting the above Sub-committee stated that the report of the Sub-committee will be considered at the next meeting of the Council. Accordingly, the report of the Sub-committee will be placed before the Council in its next meeting.
ANNEXURE: RECOMMENDATIONS MADE BY SUB-COMMITTEE HEADED BY DR. M.S. SWAMINATHAN ‘MORE CROP AND INCOME PER DROP OF WATER’

The reports of the Sub-committee on ‘more crop and income per drop of water’ highlights that the irrigation water security is vital both for livelihood and food security. The report draws attention to the scope available for improving the efficiency of use of irrigation water in a manner that both the productivity and profitability of farming are enhanced which is the pathway to an ever-green revolution all over the country, without associated ecological harm. Important recommendations of the Sub-committee are as under:-

# The Sub-committee recommended observation of Year 2007-08 as the ‘Year of More Crop and Income per Drop of Water’ to give the strategies and their importance in improving the productivity and income per unit of water.

# Adequate provisions in XI Plan for inclusion of the measures for augmentation of water supply should be made. The investment from Government as well as from lending Agencies such as World Bank should give priority for modernization of the tertiary canals with control structures.

# Micro Irrigation technology e.g. drip and sprinkler irrigation including drip fertigation to increase productivity of crops with less water should also be popularized. System of rice intensification technology (SRI) which requires less quantity of seeds, less nursery area, saves water and labour and enhance yield is also required to be popularized.

# Introduction of weather-based crop insurance for minimizing the losses to farmers for safeguarding farmers during weather uncertainties.

# Implementation of Farmer Participatory Action Research Programmes with the help of Agricultural Universities, Research Institutes, ICRISAT, WALMIs, etc. for triggering a mass movement. This Programme can cover 5000 villages in different agro-climatic regions during 2007-08. The Gram Sabhas in the villages will serve as Pani-panchayats and will provide overall guidance and support to this programme. In addition, launching of ‘water literacy movement’ and imparting training to one woman and man from every panchayat as Water Masters is also suggested.

# The Water User Agencies (WUAs) should be involved in the decision making so that the maintenance of the structures will be made easy.

# In order to implement successfully the above recommendations, a 3-tier setup at Village, State and National level has been suggested. At National level, a Pan Government of India Steering Committee consisting of representatives of various Departments which will report to Agricultural Coordination Committee, chaired by the Prime Minister.

http://164.100.24.219/rsq/quest.asp?qref=96545
1097. SHRI S.P.M. SYED KHAN

Will the Minister of AGRICULTURE be pleased to state: -

(a) whether the **System of rice intensification** (SRI) also called as Madagascar Method is practiced in the country; if so, the details thereof;

(b) whether Government have tested this method; if so, the details thereof;

(c) the conclusion of the research report by Government and whether this method can be used for improving better rice production; and

(d) if so, the details thereof?

**ANSWER**

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTILAL BHURIA)

(a) The **System of rice intensification** (SRI) was developed initially in Madagascar during 1980 and hence it is also called Madagascar **System of rice intensification**. SRI was introduced in Andhra Pradesh during kharif 2003 by Acharya N.G. Ranga Agricultural University, Hyderabad and State Government of Andhra Pradesh in the form of `On farm trials` on a small scale.

(b), (c) & (d): The Indian Council of Agricultural Research has initiated testing the SRI method of cultivation through Frontline demonstrations and experimental trials at different locations under All India Coordinated Rice Improvement Project during 2004.

1278. SHRI S. ANBALAGAN

Will the Minister of AGRICULTURE be pleased to state:-

(a) whether the UN General Assembly declared the year 2004 as the International Year of Rice;

(b) if so, the measures taken by Government in pursuance thereof and the results achieved therefrom;

(c) whether any initiatives were made by the Central Government to invest in high yield varieties of rice, appropriate technology for post-harvest and pre-harvest machines and education of farmers on modern crop management methods; and

(d) if so, the details thereof and the achievements made during each of the last two years?

ANSWER
MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTI LAL BHURIA)

(a)&(b): Yes, Sir. A number of activities were taken up to celebrate 2004 as International Year of Rice to improve production of rice in the country. These included holding of National and International symposia/seminars/conferences and trainings, publicity for awareness about International Year of Rice and meetings etc. in different States. Celebration of International Year of Rice helped in motivating farmers and State/UT Governments to improve rice productivity and make judicious use of natural resources. Popularization of hybrid rice and the system of rice intensification are important results of efforts.

(c)&(d): Yes, Sir. The Indian Council of Agricultural Research (ICAR) invests in development and release of rice hybrids and high yielding varieties. Some of rice varieties from the list of large number of varieties released in last two years are Dhanrasi for low land areas of Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Shanti, Mugad Sugandh and Sweta for Andhra Pradesh, Karnataka and Kerala, respectively; CSR 23 for alkaline and coastal saline areas of the country; Sukara Dhan-1 for upland hills of Himachal Pradesh, Meghalaya and Uttranchal; Sumati for coastal saline areas of West Bengal, Orissa, Kerala and Andhra Pradesh. Further, three rice hybrids viz., Suruchi 5402, Pant Sankar Dhan-3 and Narendra Usar Sankar Dhan were also released for cultivation.
The ICAR designed and fabricated a prototype for hitching mechanisms of the transplanter to the power tiller which is ready for test. Further, Korean and Chinese transplanters were evaluated for planting hybrid rice. The Farm Machinery Training and Testing Institutes (FMT&TIs) imparted training on pre-harvest technology which included training on equipment use for land preparation, seeding and planting, inter-culture, plant protection measures and irrigation equipments. The trainings on post harvest technology were conducted on operation of combine harvesters, self-propelled and tractor operated reapers, threshers, straw-reapers, cleaners, graders, etc. The FMT&TIs have trained 4710 trainees during 2003-04, and 5665 trainees during 2004-05.

The Central Government supported various schemes for education of farmers on modern crop management methods. Establishment of Agri-Clinic and Agri-Business centers which were started in 2002-2003 continued in last two years also. In this scheme agriculture graduates are provided training in Agri-Business development for establishment of Agri-Clinic Centres aimed at providing fee based advisory and other support service to the farmers. Further, during 2004-05 new schemes on Mass Media Support to Agriculture and Kissan Call Centers were initiated by Central Government. Kisan Call Centers operate through toll free lines throughout country to provide expert advice to farmers. Mass Media support to Agriculture is focusing on use of Doordarshan infrastructure for providing related information and knowledge to farming community.

http://164.100.24.219/rsq/quest.asp?qref=113045
2898. SHRI S. ANBALAGAN

Will the Minister of AGRICULTURE be pleased to state:-

(a) whether per hectare yield of rice is very less in the country when compared to countries like China, Japan, USA and is less than Bangladesh;

(b) if so, the details thereof during the last three years;

(c) whether Government had taken/proposed to take steps to increase per hectare yield of rice in the country; and

(d) if so, the details thereof?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE
(SHRI KANTI LAL BHURIA)

(a) & (b): Yes, sir. The per hectare yield of rice in India as compared to China, Japan, USA and Bangladesh during the years 2003, 2004 and 2005 is shown in the table below:

<table>
<thead>
<tr>
<th>Country</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>2051</td>
<td>2017</td>
<td>2000</td>
</tr>
<tr>
<td>China</td>
<td>4040</td>
<td>4206</td>
<td>4220</td>
</tr>
<tr>
<td>Japan</td>
<td>3900</td>
<td>4277</td>
<td>4361</td>
</tr>
<tr>
<td>USA</td>
<td>4965</td>
<td>5187</td>
<td>4934</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2408</td>
<td>2409</td>
<td>2428</td>
</tr>
</tbody>
</table>

Source: FAO website

(c) & (d): The Government is implementing various schemes to increase productivity of rice and area under rice cultivation. These include the Macro Management Scheme of the Department of Agriculture & Cooperation (DAC), encouragement for improved variety of seeds including hybrids, improved technologies for rice such as System of rice intensification (SRI), Zero Tillage and adoption of other resource conservation technologies.