Jawaharlal Nehru Krishi Vishwa Vidyalaya
Jabalpur (MP)

- A Profile

Jawaharlal Nehru Krishi Vishwa Vidyalaya
Krishi Nagar, Jabalpur 482 004 (MP), India
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Krishi Nagar, Jabalpur 482 004 (MP), India

2018
Foreword

The University has been recognised for its contributions in the field of agriculture. For the continuous three years, Madhya Pradesh has been honoured with ‘Krishi Karman Award’ by Hon’ble President of India. In February 2015, JNKVV has been conferred with ‘Mahindra Samridhi National Agriculture Education Award’ at New Delhi by Hon’ble Union Agriculture Minister. During last 10 years, JNKVV has developed more than 78 crop varieties. Based on the extensive research accomplishments, University has identified about 65 crop farming systems suitable for Madhya Pradesh. The State holds flagship in quality and production with trusted brand ‘Jawahar Seed’. The world famous Jawahar Soybean crop varieties are being grown over 92% area at national level. For the benefit of resource poor farmers, development of short duration hybrids for enhancing cropping intensity has been the priority area. Utilization of fallow land, hi-tech horticulture for off-season production of vegetables, integrated farming system for enhancing nutritional and food security of small and marginal farmers, awareness for organic farming, resource conservation, development of suitable mechanisation for timely harvesting with added value of the produce, are the major achievements that helped in enhancing socio-economic status of farmers. JNKVV holds the top leadership in pulse and oilseed production at national level.

For the growth and development of agrarian sector in education, research and extension, the Jawaharlal Nehru Krishi Vishwa Vidyalaya (JNKVV) is deeply involved since last five decades. With the focussed activities and its transformation to ultimate beneficiaries, the state of Madhya Pradesh has achieved a spectacular agriculture growth. Profile of JNKVV including teaching, research and extension accomplishments along with human resource management will be useful.

(P.K. Bisen)
**Preamble**

Government of India with the assistance of the State Government established the biggest multi-campus university at Jabalpur, in the heart of India, named after the architect of modern India, Pt. Jawaharlal Nehru based on the recommendations of Radhakrishnan Commission (1949) on the concept of Establishment of Agricultural University. An approach was envisaged to narrowed down the gap between the experts and farmers through Joint Indo-American Team on Agricultural Research and Education in 1954-55 and 1959-60 on the patterns of Land Grant Colleges of USA. On October 2, 1964, Jawaharlal Nehru Krishi Vishwa Vidyalaya (JNKVV) came into existence and was inaugurated by the then Union Minister for Information and Broadcasting Smt. Indira Gandhi.

The Central Administrative Office of the University is located about 7 km North of Jabalpur town on National Highway 7. The University was created by transferring the six Government colleges of Agriculture, two colleges of Veterinary Science and Animal Husbandry and 26 Research Stations under an act of Madhya Pradesh Legislature passed in 1963 and the statutes were framed.

The University had to part with the creation of sister universities Indira Gandhi Krishi Vishwa Vidyalaya (IGKV), Raipur, Chhattisgarh in 1987, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, M.P. in 2008 and Nanaji Deshmukh Veterinary Science University, Jabalpur, M.P. in 2009.

At present, the University holds an area of about 1544 ha of land. The area under the University jurisdiction contains alluvial, deep black, medium black, shallow and light black, mixed red and black, mixed red and yellow and skeletal or gravelly soil. It is low to medium in available nitrogen and phosphorus, and medium to high in available potassium.

JNKVV encompasses six Colleges of Agriculture (Jabalpur, Rewa, Tikamgarh, Ganjabasoda, Waraseoni and Powarkheda); one College of Agricultural Engineering (Jabalpur); four Zonal Agricultural Research Stations (ZARS) (Jabalpur, Powarkheda, Tikamgarh and Chhindwara); four Regional Agricultural Research Stations (ARS) (Naugaon, Garhakota, Sausar and Tendini) and twenty Krishi Vigyan Kendras (KVKs) namely Badgaon, Betul, Chhattarpur, Chhindwara, Damoh, Dindori, Harda, Jabalpur, Katni, Mandla, Narsinghpur, Panna, Rewa, Sagar, Seoni, Shahdol, Sidhi, Tikamgarh, Umaria and Singrauli representing 6 agro-climatic zones spread over 25 districts.

JNKVV has produced competent human resource for managing the activities of agriculture and allied sectors and also played a pivotal role in the growth.
and development of agriculture in the State; need based research and its rapid dissemination in the past have led to several improved technologies, which over the year are visible in terms of increased production and productivity of crops on sustainable basis. Research on dry-land agriculture production system renders sustainability to productivity and insured efficient use of natural resources. The State ranks first in pulses, second in oilseeds and third in cereal production at the national level. The States contribution to the national food basket is about 10%. The State received "Krishi Karman Award" at National Level for high agriculture production in two consecutive years in 2013 and 2014 where in JNKVV has major contribution through variety, seed technology development and replacement resulted in enhanced productivity of major crops in Madhya Pradesh.

Mission
- To impart education, research and extension activities effectively for enhancing production, productivity and profitability of agriculture and allied systems in a sustainable manner.

Mandate
- To serve as a centre of teaching and training in the field of Agriculture and Allied Sciences.
- To conduct basic, strategic, applied and anticipatory research in the field of Agriculture and Allied Sciences.
- To disseminate technology to farmers, extension personnel and organizations engaged in agricultural development through various extension programmes.

Vision
The JNKVV has documented the plan to introspect the future needs and challenges. Vision-2020 covers the present and past achievements and its impact, SWOT analysis providing a frame work of programmes for meeting the goals with providing services for better rural livelihood and resource poor farming community.

The core-motto of JNKVV believes that Agriculture Sustains Life. In Madhya Pradesh, JNKVV is providing equal opportunities of education, research and extension activities for enhancing productivity, profitability and sustainability of agricultural production system and quality of rural livelihood. The University addresses and is committed to render services to combat upcoming challenges of the rural sectors.

Organizational Set-up
His Excellency, the Governor of Madhya Pradesh is the Chancellor of the University. The Vice Chancellor, Chief Executive of the University is supported by -
- Board of Management
- Academic Council
- Administrative Council
- Research Council
- Extension Education Council
- Council of Post Graduate Studies

The responsibilities for planning and activities of research are shouldered by Directorate of Research Services; human-resource management by Directorate of Instruction; and dissemination and transfer of technology by Directorate of Extension Services. The University encompasses Faculty of Agriculture and Faculty of Agricultural Engineering being headed by Dean Faculty. Constituent Colleges of each faculty are administered by the respective Dean while each of the department is headed by respective University Professor & Head. The placement and counseling of students are governed by Dean Students Welfare while the farm and seed production activities are administered by Director Farm. Vice Chancellor is supported by Registrar and Comptroller for administrative and fiscal matters.

Academic Programme
The University offers three Bachelor's Degree programmes viz., B.Sc. (Ag.), B.Sc. (Forestry), and B.Tech. (Agril. Engg.). The Master's Degree programmes are available in thirteen departments under the Faculty of Agriculture and in three departments in the Faculty of Agricultural Engineering. The programme on Master of Agribusiness Management is also available under the Faculty of Agriculture. Doctoral degree programmes are available in eleven departments in the Faculty of Agriculture and in three departments of the Faculty of Agricultural Engineering. In addition, the University also offers diploma courses of two years in Horticulture on "Seed Production" and "Nursery Management" at Horticulture Vocational Education Institute, Rangua, Garhakota, District Sagar from 2008.
Vice Chancellors from the inception of the University

Dr. J.S. Patel
1 Oct. 1964 - 19 March 1968

Dr. L.S. Negi
20 March 1968 - 7 May 1972

Dr. C. Thakur
26 Oct. 1972 - 30 March 1975

Dr. R.L. Kaushal

Dr. R.V. Ramakrishna
1 June 1978 - 15 March 1979

Dr. Sukhdev Singh
18 June 1979 - 20 Nov. 1981

Prof. S.V. Arya
6 April 1982 - 5 April 1987

Dr. D.K. Sharma
6 April 1987 - 5 April 1992

Dr. K.S. Johar
6 April 1992 - 8 April 1997

Dr. Panjab Singh
9 April 1997 - 9 April 2000

Dr. G.B. Singh
4 Dec 2000 - 24 Feb 2002

Dr. D.P. Singh
12 July 2002 - 12 July 2007

Prof. Gautam Kalloo
13 July 2007 - 12 July 2012

Prof. Vijay Singh Tomar
23 Nov. 2012 - 22 Nov. 2017

Dr. Pradeep Kumar Bisen
23 Nov. 2017 - continue
## Convocation held in the University

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Vice Chancellor</th>
<th>Governor</th>
<th>Chief Guest</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>10-01-1967</td>
<td>Dr. J.S. Patel</td>
<td>HE Shri K. Chengalaraya Reddy</td>
<td>Dr. V.K.R.V. Rao, Central Minister of Human Resources, Government of India</td>
</tr>
<tr>
<td>II</td>
<td>01-03-1969</td>
<td>Dr. L.S. Negi</td>
<td>HE Shri K. Chengalaraya Reddy</td>
<td>Dr. G.S. Pathak, Vice President, India</td>
</tr>
<tr>
<td>III</td>
<td>12-01-1970</td>
<td>Dr. L.S. Negi</td>
<td>HE Shri K. Chengalaraya Reddy</td>
<td>Shri Govind Narayan Singh, Chief Minister, Madhya Pradesh</td>
</tr>
<tr>
<td>IV</td>
<td>12-04-1971</td>
<td>Dr. L.S. Negi</td>
<td>HE Shri Satyanarayan Sinha</td>
<td>HE Shri Satyanarayan Sinha, Governor, Madhya Pradesh</td>
</tr>
<tr>
<td>V</td>
<td>15-04-1973</td>
<td>Dr. C. Thakur</td>
<td>HE Shri Satyanarayan Sinha</td>
<td>HE Shri Satyanarayan Sinha, Governor, Madhya Pradesh</td>
</tr>
<tr>
<td>VI</td>
<td>10-04-2001</td>
<td>Dr. G.B. Singh</td>
<td>HE Dr. Bhai Mahavir</td>
<td>Dr. R.S. Paroda, Secretary, DARE and Director General, ICAR, New Delhi</td>
</tr>
<tr>
<td>VII</td>
<td>21-03-2002</td>
<td>Dr. G.B. Singh</td>
<td>HE Dr. Bhai Mahavir</td>
<td>Shri Sompal, Member, Agriculture Planning Commission, GoI, New Delhi</td>
</tr>
<tr>
<td>VIII</td>
<td>09-01-2006</td>
<td>Dr. D.P. Singh</td>
<td>HE Dr. Balram Jhakar</td>
<td>Dr. Rajendra Singh Paroda, Secretary, DARE and Director General, ICAR, New Delhi Head, CGIAR Programme for Central Asia &amp; Caucasus, Tashkent</td>
</tr>
<tr>
<td>IX</td>
<td>20-10-2009</td>
<td>Prof. G. Kalloo</td>
<td>HE Shri Rameshwar Thakur</td>
<td>Dr. Mangala Rai, Secretary, DARE and Director General, ICAR, New Delhi</td>
</tr>
<tr>
<td>X</td>
<td>25-06-2010</td>
<td>Prof. G. Kalloo</td>
<td>HE Shri Rameshwar Thakur</td>
<td>Dr. Gurdev Singh Khush, Adjunct Professor, University of California, Davis, USA</td>
</tr>
<tr>
<td>XI</td>
<td>05-05-2012</td>
<td>Prof. G Kalloo</td>
<td>HE Shri Ram Naresh Yadav</td>
<td>Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR, New Delhi</td>
</tr>
<tr>
<td>XII</td>
<td>27-06-2014</td>
<td>Prof. V.S. Tomar</td>
<td>HE Shri Ram Naresh Yadav</td>
<td>HE Shri Pranab Mukherjee, President, India</td>
</tr>
<tr>
<td>XIII</td>
<td>08-02-2017</td>
<td>Prof. V.S. Tomar</td>
<td>HE Shri Om Prakash Kohli</td>
<td>Dr. Trilochan Mohapatra, Secretary, DARE and Director General, ICAR, New Delhi</td>
</tr>
<tr>
<td>XIV</td>
<td>12-04-2018</td>
<td>Prof. P.K. Bisen</td>
<td>HE Smt. Anandiben Patel</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Name</td>
<td>Degree</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
| I   | 10-01-1967 | Dr. Ralph Waldo Cummings  
Director, ICRISAT, Hyderabad                                       | D.Sc.      |
| II  | 01-03-1969 | --                                                                   |            |
| III | 12-01-1970 | --                                                                   |            |
| IV  | 12-04-1971 | --                                                                   |            |
| V   | 15-04-1973 | Mr. Balkrishna Bhawani Shanker Dave  
Mr. Ram Bhagwat Ekbote                                              | Ph.D.      |
| VI  | 10-04-2001 | --                                                                   | Ph.D.      |
| VII | 21-03-2002 | --                                                                   |            |
| VIII| 09-01-2006 | --                                                                   |            |
| IX  | 20-10-2009 | Padma Shri  
World Food Prize winner  
Dr. Gurdev Singh Khush  
Adjunct Professor, University of California, Davis, USA  
World Food Prize winner  
Dr. S.K. Vasal  
Maize Breeder, CIMMYT, Mexico | D.Sc. D.Sc. |
| X   | 25-06-2010 | --                                                                   |            |
| XI  | 05-05-2012 | Dr. Subbanna Ayyappan  
Secretary, DARE and Director General, ICAR, New Delhi | D.Sc.      |
| XII | 27.6.2014  | Bharat Ratna  
Dr. Avul Pakir Jainulabdeen Abdul Kalam  
Ex-President of India  
Padma Shri  
Padma Bhushan  
Padma Vibhushan  
Dr. Mankombu Sambasivan Swaminathan  
Ramon Magsaysay Award  
World Food Prize, Albert Einstein World Award of Science  
Tyler Prize for Environmental Achievement, Volvo Environment Prize  
Indira Gandhi Peace Prize, Indira Gandhi Award for National Integration  
Ex-Director General, ICAR, Ex-Director General, IRRI  
Chairman, M.S. Swaminathan Research Foundation, Chennai | D.Sc. D.Sc. |
| XIII| 8.02.2017  | Padma Bhushan  
Prof. Ram Badan Singh  
Chancellor, Central Agricultural University, Imphal  
President, National Academy of Agricultural Sciences  
Gold Medal from the International Board for Plant Genetic Resources  
Lal Bahadur Shastri Memorial International Scientist Award,  
Vigyan Gaurav Samman, Bharatiya Paramparagat Vigyan Puraskar  
Dr. Zhu Shoumin International College of Nutrition Award  
Shri R. Parshuram  
IAS, Ex-Chief Secretary, Government of MP, Commissioner, MP State Election Commission | D.Sc. D.Sc. |
| XIV | 12.04.2018 | Padma Bhushan  
Dr. Rajendra Singh Paroda | D.Sc. |
Faculties and Colleges
The University encompasses Faculty of Agriculture and Faculty of Agricultural Engineering with five constituent colleges in the Faculty of Agriculture and one in the Faculty of Agricultural Engineering.

Admission Criteria
Bachelor Degree Programme
Number of seats is decided well in advance and are notified and displayed on official website (www.jnkvv.org). The University admits students in three Bachelor’s degree programme i.e. B.Sc.

Location and Establishment year of constituent Colleges and Centers of JNKVV, Jabalpur

<table>
<thead>
<tr>
<th>Location</th>
<th>Year of Establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Faculty of Agriculture</strong></td>
<td></td>
</tr>
<tr>
<td>College of Agriculture, Jabalpur</td>
<td>1955</td>
</tr>
<tr>
<td>College of Agriculture, Rewa</td>
<td>1955</td>
</tr>
<tr>
<td>College of Agriculture, Tikamgarh</td>
<td>2004</td>
</tr>
<tr>
<td>College of Agriculture, Ganj Basoda (Vidisha)</td>
<td>2007</td>
</tr>
<tr>
<td>College of Agriculture, Waraseoni (Balaghat)</td>
<td>2012</td>
</tr>
<tr>
<td>College of Agriculture, Powarkheda</td>
<td>2016</td>
</tr>
<tr>
<td><strong>Faculty of Agricultural Engineering</strong></td>
<td></td>
</tr>
<tr>
<td>College of Agricultural Engineering, Jabalpur</td>
<td>1966</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
</tr>
<tr>
<td>Biotechnology Centre, Jabalpur</td>
<td>2003</td>
</tr>
<tr>
<td>Dryland Horticultural Research &amp; Training Centre, (DHRTC), Garhakota (Sagar)</td>
<td>2006</td>
</tr>
<tr>
<td>Horticulture Vocational Education Institute, Rangua, Garhakota (Sagar)</td>
<td>2008</td>
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</table>

Departments in Faculties of Agriculture and Agricultural Engineering

<table>
<thead>
<tr>
<th>Faculty of Agriculture</th>
<th>Faculty of Agricultural Engineering</th>
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<tbody>
<tr>
<td>Agricultural Biotechnology</td>
<td>Agricultural Structure &amp; Environmental Engineering</td>
</tr>
<tr>
<td>Agricultural Economics &amp; Farm Management</td>
<td>Applied Physics &amp; Agricultural Meteorology</td>
</tr>
<tr>
<td>Agronomy</td>
<td>Farm Machinery &amp; Power Engineering</td>
</tr>
<tr>
<td>Entomology</td>
<td>Post Harvest Process &amp; Food Engineering</td>
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<tr>
<td>Extension Education</td>
<td>Soil &amp; Water Engineering</td>
</tr>
<tr>
<td>Food Science &amp; Technology</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td></td>
</tr>
<tr>
<td>Mathematics &amp; Statistics</td>
<td></td>
</tr>
<tr>
<td>Plant Breeding &amp; Genetics</td>
<td></td>
</tr>
<tr>
<td>Plant Pathology</td>
<td></td>
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<tr>
<td>Plant Physiology</td>
<td></td>
</tr>
<tr>
<td>Soil Science &amp; Agricultural Chemistry</td>
<td></td>
</tr>
</tbody>
</table>
(Ag.), B.Sc. (Forestry) and B.Tech. (Agril. Engg.) through Madhya Pradesh State level unified entrance test conducted by Professional Examination Board (VYAPAM), Madhya Pradesh, Bhopal (www.vyapam.nic.in). Fifteen per cent seats at Bachelor degree Programme are reserved for the students from other states of India, as per recommendations of ICAR, New Delhi, with due consideration of State reservation policies, 20% payment seats and 5% for non-resident Indians and foreign nationals are created over and above the prescribed intake capacity in different faculties.

Course curricula

The University offers Bachelor degree programmes in Agriculture, Agricultural Engineering and Forestry of four year duration through semester system. The unified course curriculum in all the three Bachelor, Master and Doctorate degree programmes is being offered by the agricultural universities across the country. Considering the quality of education, the entire course curricula have been restructured in all the disciplines by the Indian Council of Agricultural Research in the light of business, intellectual property regime, marketing, banking, WTO related issues, computer application, bio-informatics, biodiversity, ecology & environment and agri-business management in job orientation mode along with recent developments. The ongoing courses for Bachelor degree programmes are offered from 2007-08 as per recommendations of the Fourth Deans’ Committee constituted by the ICAR. The University is among the first few that offered the postgraduate studies as per modified course curriculum recommended by ICAR in the year 2009-10.

Capstone courses

Capstone courses are offered at all the degree programmes. It is a well knit planned learning experience requiring students to support previously taught subjects. At postgraduate level, it provides an opportunity to incorporate previously learned courses into an interconnected frame of reference enabling effective research programme.
Rural Agricultural Work Experience (RAWE) and Forestry Work Experience (FWE)

Rural Agricultural Work Experience (RAWE) and Forestry Work Experience (FWE) are the important competence and confidence building programmes introduced in all the agricultural universities in India. The students of agriculture are learning well on basic and applied issues of science and technology. However, they do not possess adequate self-confidence in starting their own commercial farming. In view of the fact, Randhawa Committee was constituted in 1992 and recommended the Rural Agricultural Work Experience (RAWE) Programme for imparting quality and practical oriented education for productive agriculture degree programme (www.icar.org) to prepare the agricultural graduates for better career in agriculture or agribusiness. Practical hands-on training during higher education is helpful for self-employment. The programme is run for effective work experience of rural agriculture for student of the final year, for one semester by active participation in the field to review and analyze the work experience critically, understand rural community life, familiarize with the socio-economic conditions of farmers and to draw useful conclusions implemented in actual practical life under field situation. The programme is encouraged by providing financial support from ICAR and State Government.

Staying with farm families in a village provides a real touch of rural atmosphere, so that the students plan their career accordingly. It plays an important role especially for the students with urban background in understanding the real farm-world situation with agricultural practices. This experiential system in agricultural education has a strong potential to prepare a better agricultural technocrats with high level of skill in combination with the modern outlook and management capacity. RAWE is considered as one of the best means to produce well trained agricultural graduates having broad based knowledge combating and techniques.

Experiential Learning Programme (ELP)

Experiential learning programme has been introduced at Bachelor degree with the specific objective of learning by hands-on participation, by trying, making errors, and gradually narrowing the margin between failure and success. Work-based experiential learning through agricultural-related supervised experiences provide practical, real-world experiences in agriculture, develop a positive work ethic, and meet realistic occupational expectations.

During X Plan, ICAR has sponsored a scheme on experiential learning that involves setting up of instructional farms for production (crop, animal and fish) agronomy, model plants for food processing and value addition for product diversification and engineering workshops for manufacturing, operation and maintenance of farm machinery and
equipment. The aim of the scheme is to involve student for learning in the environment of experimental farms, model plants and engineering workshops. It inspires greater confidence, competitiveness and competence among students to meet needs of private sector and to undertake self-employment in vocations of their choice.

Experiential learning modules namely plant tissue culture, mass production of bio-agents and bio-pesticides, hi-tech horticulture, fruits & vegetable processing, visual & graphic communication, Agri Business Management and Crop Production (organic farming), of one semester duration are offered by the University and the student may choose any one. One time grant from the ICAR for basic infrastructure facility to run the self-sustainable experiential learning module in every agricultural university has been provided. Inter University exchange programme of students for better exposure during experiential learning is considered. At Bachelors degree programme an advisor apart from the class advisor is assigned to every student that provides guidance in academic and personal matters. Advisor monitors and maintains advisee’s academic performance in the right direction.

Experiential Learning Programme

Experiential Learning Unit sanctioned by ICAR

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Experiential Learning Unit</th>
<th>Department / College</th>
<th>Year of Sanction</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fruits and Vegetable Processing</td>
<td>Dept. of Post Harvest Tech., College of Agril. Engg.</td>
<td>2006-07</td>
</tr>
<tr>
<td>2.</td>
<td>Plant Tissue Culture</td>
<td>Biotechnology Centre, J NKV, Jabalpur</td>
<td>2006-07</td>
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<tr>
<td>3.</td>
<td>Mass Production of Bioagents and Bio-pesticides</td>
<td>Department of Entomology, College of Agriculture, Jabalpur</td>
<td>2008-09</td>
</tr>
<tr>
<td>4.</td>
<td>Visual and Graphic Communication</td>
<td>Department of Extension Education, College of Agriculture, Jabalpur</td>
<td>2011-12</td>
</tr>
<tr>
<td>5.</td>
<td>Commercial Horticulture</td>
<td>Department of Horticulture, College of Agriculture, Jabalpur</td>
<td>2011-12</td>
</tr>
<tr>
<td>6.</td>
<td>Protected Cultivation of High Valued Horticulture Crops</td>
<td>Department of Horticulture, College of Agriculture, Rewa</td>
<td>2012-13</td>
</tr>
<tr>
<td>8.</td>
<td>Organic Farming Products Unit</td>
<td>Department of Agronomy, College of Agriculture, Jabalpur</td>
<td>2013-14</td>
</tr>
<tr>
<td>9.</td>
<td>Seed Production &amp; Technology</td>
<td>Department of Plant Breeding, College of Agriculture, Gajn Basoda</td>
<td>2013-14</td>
</tr>
</tbody>
</table>
Masters Degree Programme

The JNKVV offers Masters Degree Programme in the Faculty of Agriculture and Agricultural Engineering with admission based on merit. In all, 25% seats are filled up by All India Competitive Examination with due attention to the MP State reservation policy. Post Graduate programme are offered by the University in 13 disciplines in the Faculty of Agriculture, 03 in discipline of Agricultural Engineering along with Masters in Agri. Business Management. The students from across the country are being admitted.

Doctoral Degree Programme

Admissions are provided on merit basis for Doctoral degree programme in the 11 disciplines of Faculty of Agriculture and 03 disciplines in Faculty of Agricultural Engineering.

Seats in different degree programmes (2014-15) offered by the University

<table>
<thead>
<tr>
<th>Faculty and College</th>
<th>Location</th>
<th>Programme</th>
<th>Annual Induction*</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>UG</td>
</tr>
<tr>
<td><strong>Faculty of Agriculture</strong></td>
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<tr>
<td>College of Agriculture</td>
<td>Jabalpur</td>
<td>B.Sc. (Ag.)</td>
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<tr>
<td>College of Agriculture</td>
<td></td>
<td>B.Sc. (Forestry)</td>
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<tr>
<td>College of Agriculture</td>
<td></td>
<td>MBA (Agri. Business)</td>
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</tr>
<tr>
<td>College of Agriculture</td>
<td>Rewa</td>
<td>B.Sc. (Ag.)</td>
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</tr>
<tr>
<td>College of Agriculture</td>
<td>Tikamgarh</td>
<td>B.Sc. (Ag.)</td>
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<td>College of Agriculture</td>
<td>Ganj Basoda</td>
<td>B.Sc. (Ag.)</td>
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<td>College of Agriculture</td>
<td>Waraseoni</td>
<td>B.Sc. (Ag.)</td>
<td>56</td>
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<tr>
<td>College of Agriculture Powarkheda</td>
<td></td>
<td>B.Sc. (Ag.)</td>
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</tr>
<tr>
<td><strong>Faculty of Agricultural Engineering</strong></td>
<td></td>
<td>B.Tech. (Agril. Engg.)</td>
<td>99</td>
</tr>
<tr>
<td>College of Agricultural Engg.</td>
<td>Jabalpur</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>599</td>
</tr>
</tbody>
</table>

**Diploma Course Programme**

| Horticulture Vocational Education Institute | Garhakota, Sagar | Seed Production | 40 |
|                                            |                  | Nursery Management | 40 |

* Including 20% payment (15% for UG and 25% for PG) ICAR (25% of free seat) and 5% NRI Quota. Reservation of seats for SC (15%), ST (21%) and OBC (14%)

Seminars

Seminars at Postgraduate level are designed to assist student for building and developing skills in the subject of specialization. The seminars are arranged to promote expression, generate confidence, knowledge management, communication skills, stress management and overall personality development of the student.

Advisory Committee

Advisory Committee consisting of major and minor advisors to guide students in planning academic requirements and thesis work. The topics selected for curricula research are based on future thrust and current research problem. The students are required to develop synopsis of the research problems, identifying the research gaps. They are also required to defend synopsis seminar in the respective department.

Teacher

For quality education

For quality education, teachers and faculty are equally important. The teaching job is made more attractive to encourage inflow of good faculty. The promotion policies conducive to quality of teaching
and research for retention of competent faculty could be met by instituting the rewards for faculty. It would attract and retain best brains in education and research. The teachers are encouraged to participate in foundation courses, refresher courses, workshops and seminars, and international programmes organized periodically. A centre of Visual & Graphic Communication has been established to provide the computer literacy to the faculty as well as the administrative staff of Vishwa Vidyalaya.

Teaching methodology

Annual calendar involving fixed date of registration, examination, sports, cultural activities and educational tour is planned with semester break. Student has to register the courses as per required credit hours at the commencement of the semester. The maximum limit of credit hours per semester is fixed in all the three degree programmes. At least 80% of the scheduled classes of each course must be held with minimum 75% attendance to qualify eligibility of examination. As an applied science with involvement of technology, nearly all the courses are practical oriented. Practical know-how is provided with senior teachers in small batches (15 students/batch) with explanation in instructional farms/ laboratories in how-to-do-it manner. Classroom teaching involves conventional chalk-duster method with revision through computer assisted presentations and video films.

Master and Doctorate degree programmes in both the faculty involves course as well as thesis research work. Student has to first pass all the subjects offered for the respective degree programme and thereafter complete the thesis problem and initiate writing under the guidance of the advisor towards the partial fulfilment of the degree. Emphasis on e-learning is given through Information and Communication Technology (ICT) support. Deans and Professors are involved in teaching at Bachelor degree programme for effective interaction with students and administration that serve as a role model for other.

Teaching material

Teachers of the University are encouraged to write books according to syllabus, practical manuals in how-to-do-it-manner, prepare PowerPoint presentation, question bank, videos etc. for effective teaching. Acquaintance and use of e-text books and e-content development are promoted in the University. An education technology cell is being established with multimedia facilities for developing the short films documentary as well as recording and delivering guest lecturers of eminent scientists in the field of agriculture education and research. This cell will upgrade the professional teaching skill of teachers through ICT based technology materials for preparing the teaching materials and effective communication through smartclass rooms.

Examination - process of evaluation

The University adapts a three tier system of examination at Bachelor degree programme that involves midterm-examination followed by practical-examination and final-theory examination. Midterm examination of 20-mark value is conducted with inclusion of objective type questions without any choice in the middle of each semester with completion of nearly 50% of course. The marks obtained are added in the final theory examination. It helps students to understand, revise the subject and evaluate their weak and strong areas for improvement. To judge the competence about techniques, practical examination is conducted under the supervision of external and internal examiner.
The final theory examination involves three sections first with objective type questions, followed by the questions with reasoning and then section of descriptive questions. The pattern helps to cover the whole syllabus with minimum choice to avoid selective study by the student. Fifty percent questions are based on the objective and aim of the course, i.e. what a student should know/learn by the course. Other questions are based on the reasoning and case study that has to be solved with the help of the knowledge gained by the subject. Objective type questions help the examiner to cover the whole course and for student to prepare for competitive examination.

After completion of the course work, student has to gain Rural Agricultural Work Experience and pass Experiential Learning Programme successfully to fulfil the requirement of Bachelor degree. In Master degree programme, after completion 75% of the course work in major and 66% minor courses separately, student has to pass the written comprehensive examination conducted by the external examiner from other university. Whereas, in Doctorate degree programme after passing the written comprehensive examination, the scholar has to pass oral comprehensive examination organized by external examiner. After completion of written comprehensive, M.Sc. student can defend the synopsis, present results and write the thesis for evaluation. However, Ph.D. scholar has to undertake written and oral comprehensive and then he can defend the synopsis, discuss the result for approval to write and submit the thesis for evaluation. The thesis is evaluated for approval by one external examiner for Master degree and two for Doctorate degree. The degree is awarded after depend on thesis by the student in an oral examination conducted by the external examiner.

Ten points teaching module

- University has developed the following ten point teaching module for effective leaning and quality enhancement
- Development of activity milestone of the subject
- Development of departmental profile and establishment of information bank (CD and slide)
- Updation of class notes
- Development and distribution of question bank
- Upgradation of instructional farms
- Experiential learning projects
- Collection and compilation of classical and conceptual research papers/material
- Upgradation of library facilities with modern gadgets
- Preparation of teaching manuals and
- Upscaling of curricular research/ M.Sc./Ph.D. thesis topics on concurrent issues/thrust areas and anticipatory themes.

Human Resource Development

Human Resource Development is one of the important functions as per the mission of the University. Since its establishment, the University has produced 16,628 undergraduate and 7,092 postgraduate students. These pass out students are serving in various Government and private organizations in the field of teaching, research, extension, banking, seed, fertilizer & pesticide sector, farm machinery manufacturing company and NGO’s working in the field of agriculture and allied branches. They are rendering the valuable services in the field of agriculture and allied sector not only in the State but in other part of the country and overseas.

Linkages

The University has established strong linkages for higher education, research and training with national and international universities/institutes and private sector organizations. The areas of cooperation include the subject of mutual interest and contribution.

Teaching-Research MoU

JNKVV has signed MoU with

- Alcorn State University, USA
- International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad
- International Centre for Agricultural Research in Dry Areas (ICARDA), Aleppo, Syria
- Japan International Cooperation Agency (JICA), Japan
- International Rice Research Institute, Philippines
- Borlaug Institute of South Asia (BISA), Jabalpur (M.P.)
- Indian Agricultural Research Institute (IARI), New Delhi
- National Bureau of Agriculturally important Microorganisms, Kusmaur, P.O. Kaitahtans, Mau
- Nath Bhanjan, U.P.
- Jain Irrigation System Ltd., Jalgaon (M.S.)
- Mahindra & Mahindra Ltd., Mumbai (M.S.)
- Central Cotton Research Institute, Nagpur (M.S.)
- Directorate of Soybean Research, Indore (M.P.)
- National Institute of Agricultural Extension Management (MANAGE), Hyderabad
- Directorate of Weed Science Research, Jabalpur (M.P.)

**Infrastructure, Library facilities and Information Network**

Conference and lecture hall with adequate seating capacity equipped with audio-visual aids are available for stimulating teaching environment. College at Jabalpur has an examination hall and auditorium for cultural and other academic activities of sufficient space equipped with audio-visual aids and peripheral facilities.

The Central Library of JNKVV is catering to the need of all constituent colleges of JNKVV (Agriculture, Forestry and Agricultural Engineering), KVK’s and research stations. The LIBMAN software has been installed in the library. The library is well equipped with data capturing unit, bar code scanners, thermal power printer, laser printer and photocopier. Eight computers have been installed in the library for student’s consultation. High speed Internet connectivity (1.0 Gbps) is being provided under (NKN) National Knowledge Network supported by ICAR. There are 100+CD/DVD database on different disciplines of Agriculture and Biology. All CABI-CD from 1972 onwards are available for consultation. Presently, the library is in possession of CD ROM databases viz, AGRIS, AGRICOLA, CURRENT CONTENTS, CROP, CABPEST, GENE, Agricultural Economics and Soil CD, Biological Abstracts, Annual Reviews and CAB Abstracts. Open e-journals are available to users JNKVV has become partner of CeRA (Consortium for e-resources in Agriculture) NAIP, ICAR project under which the JCCC, Springer collection, Annual Review & CSIRO Australian Journals are accessible in Central Library ARIS lab.

At present, the library is subscribing for 40+ Indian journals besides a wide range of journals received under exchange programme. The Central Library is linked with 30 International & 60 National Institutes / Universities under exchange programme. There are more than 87,000 entries representing 62,000 general books, text books, teachers reference books and 16,308 back and current volumes of foreign and Indian journals, about 6200 (PG / Ph.D.) theses and 8632 pamphlets, bulletins and reports etc. Every year, approximately 4000 new entries of literature are added.

Library of Jawaharlal Nehru Krishi Vishwa Vidyalaya (JNKVV), Jabalpur is designed and devoted to serve the educational, research and extension needs of the faculty members, staff and students. Central Library was established with a view of collecting, organizing, analyzing agricultural information and making it available for its users. Library supports the curriculum, research and extension needs of the University through the development of pertinent collections and the provision of services designed to facilitate access to easy information retrieval and learning. The library is catering the need of all constituents’
colleges (Agriculture, Forestry and Agricultural Engineering), KVK's and research stations of JNKVV.

Audio-Visual aids for Smart e-Classroom
E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether network learning or not, serve as specific media to implement the learning process. E-learning is the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration.

Video Conferencing System: Distance Learning
- Video conferencing is an exciting technology for education. Teachers and students are able to see each other, share documents and discuss topics together in a situation similar to a traditional classroom setting. The main difference being that the teachers and the students may be in different states or even countries.
- Multi-point Video Conferencing System has been purchased at JNKVV Headquarter, i.e. at Jabalpur and Single-point Video Conferencing System have been purchased for outlying campus i.e. Rewa, Tikamgarh, Ganjbasoda using ICAR Development Grant.

Hostel and sports facilities
- The University has separate undergraduate and postgraduate hostels for boys and girls. The students live in a pleasant and intellectually stimulating environment. Living in such an environment with people having similar goals and aspiration provides an exciting experience. International hostel in JNKVV, Jabalpur is constructed with the support of ICAR for facilitating education of foreign students. Establishment of gymnasium, stadium, swimming pool, etc. are under construction with the support of ICAR for all-round development of student and staff to minimize intellectual isolation. Each college has health centre supported by medical and paramedical staff.

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Active placement cell is run by Dean Students Welfare. A large number of students got recruitment in private agriculture organizations and banks through campus interviews. Students are given coaching to appear in competitive examinations for higher education, fellowship and Government jobs. Counseling and help in seeking admission in foreign universities is also provided by Dean Students Welfare. Strong association of alumni with the college/university helps in establishing the brand ambassador through active alumni cell.

Educational tour is regular phenomenon at Bachelor degree programme. It gives various types of exposure viz., facts of life with pleasure, vision of the outside world and confidence and competence building.

The students' affairs up to graduate level are resolved by the Dean Students Welfare (DSW) and postgraduate affairs by Director of Instructions. The affairs such as athletics, residence life, co-curricular activities, health etc. are looked after by DSW. The Dean Students Welfare extend counseling free of
cost as career linkage, advising and on campus interviews to compete for jobs in bank and private companies. As a part of recreational sports, the fitness program and annual sports are organized to achieve higher quality life. The facilities of indoor and outdoor games are also available to students throughout the year. The sports and cultural teams selected at University level participate in all India competition organized by ICAR as Agriunifest and Agriunisport every year.

**10th AGRIUNISPORTS and 13th AGRIUNIFEST**

The 10th Agriunisports and 13th Agriunifest were organized during March 3-6, 2009 and February 24-28, 2013 respectively at JNKVV, Jabalpur under the aegis of the ICAR, New Delhi.

The 13th All India Inter Agricultural University Youth Festival 2013 (13th AgriUnifest) was organised by JNKVV, Jabalpur from February 24-28, 2013, sponsored by Indian Council of Agricultural Research, New Delhi. In this mega event, more than 1000 students were participated from 38 Agricultural / Veterinary / Fisheries and Horticultural Universities from SAUs and Central University across the country. In the event, 18 different events were organized. In the Inaugural Function, Dr. Ramkrishna Kusmaria, Hon’ble Minister, Farmer Welfare and Agriculture
Development, Govt. of M.P. was the Chief Guest and Dr. Ajay Vishnoi, Hon’ble Minister, Animal Husbandry, Fisheries, Backward and Minority Class Welfare, Govt. of M.P. presided over the function. Dr. Arvind Kumar, Deputy Director General (Edu.), ICAR, New Delhi was the Special Guest.

Different events were organised during 4 days. Closing Ceremony and prize distribution was held on Feb. 28, 2013 in gracious presence of Chief Guest Dr. Ramkrishna Kusmaria, Hon’ble Minister, Farmers Welfare and Agricultural Development, Govt. of M.P. and Guest of Honour Dr. Govind Prasad Mishra, Vice Chancellor, Nanaji Deshmukh Veterinary Science University, Jabalpur and in presence of thousand of spectators.

The cultural team of JNKVV has secured first position in Group Song Indian, Group Dance and Debate, second position in Patriotic Group Song, On spot Painting and Debate, Third position in clay modeling, Mono acting, One Act Play & Skit and Fourth position in Rangoli, Cartooning and Mime. With this splendid performance the JNKVV Cultural team also won the Shiromani (Championship) trophies in music, theater and dance events. On the basis of number of prizes and Shiromani awards won, JNKVV team ranked first in total points tally and “Over All Championship” trophy of AGRIUNIFEST-2013 was awarded.

Tutorial cell for competitive examination

Tutorial cell for competitive examination

Regular training to UG / PG students to attempt various competitive examination by developing separate module out of the course curricula related with GATE, NET, ARS, UPSC, State PSC and SSC examination and for Fellowship and Scholarship through development and sharing of adequate knowledge, teaching material and competitive aptitude are enthused by the University staff.

Ethics and human value in education

Human beings have an innate ethical sense that urges them to make predictable choices. Although most people believe that their actions are guided by logic and reason, the latter often acts only as a mechanism to justify these choices. Language allows people to construct sophisticated rationales which support what are often emotionally driven decisions.

Ethics education is about recognizing the real power of one’s innate ethical sense and how it influences our behaviour. In this way we can free reason to become a tool to truly guide our actions. Without the wisdom that results from understanding one’s innate ethical self, reason remains a powerful propaganda for unchallenged intrinsic human ethical imperatives.

The teacher influences the character of the students, by inculcating fundamental ethic values. Recognizing the need, the university has introduced courses on human values and professional ethics for its students from second semester of 2013-14.

Centre of Advanced Faculty Training (CAFT)

Looking to well equipped infrastructural facilities and faculty, ICAR, New Delhi, has recognized the Department of Soil Science & Agricultural Chemistry, College of Agriculture, Jabalpur under capacity building programme and awarded Center of Advanced Faculty Training in Soil Science (CAFT, erstwhile Centre of Advanced Studies) out of total 31 centers (2 in Soil Science) in 1995. The centre is engaged in organizing training programmes, to impart advanced training to the scientists and academic staff within the National Agricultural Research and Education system in the country to upgrade their skills in the frontier areas of Soil Science and technology. In these training programme besides JNKVV faculty, eminent scientists, resource persons from other universities/organizations and subject matter specialists from various fields of specialization are invited to deliver lectures.

Crop Cafeteria and Technology Park

The students / scientists / teachers are involved in the development of crop cafeteria and technology.
park to display the significant achievements and technology generated in various disciplines of the University.

Development of Education Museum

Education Museum get developed with the financial help of ICAR, New Delhi. The building of the museum has been constructed. Its phase wise planning is in progress. The museum will contain all historical agricultural events of the State theme wise.

Business Planning and Development Unit (BPD Unit)
- The University has established BPD Unit as a joint venture of NAIP-ICAR for transferring commercial technology for promotion with entrepreneurs for the benefit of farmers.
- It is playing a vital role in the development of entrepreneurship and linkages with small and marginal farmers to foster product delivery by shortening the length of supply chain.
- The BPD flags transferable technology through incubator, protection through IPR, licensing, commercialization, market linkages, quality assurance system and human resource development.
- The University has signed MoU with many private organizations in order to promote

hybrids, medicinal plants and microbes.
- Providing Agribusiness Development through awareness programmes.
- Created a Agribusiness Development platform to sensitize the scientist.

Excellence at National level
- Centre of Advanced Faculty Training (CAFT) in Soil Science & Agricultural Chemistry
- Centre of Excellence in Medicinal and Aromatic Plants
- Nucleus and Breeder Seed Production Centre
- Seed Technology Lab
- Business Planning & Development Unit (BPD)
- Kisan Mobile Sandesh and Technology Park
- Bio-technology Centre
- Dry Land Horticulture Research & Training Institute (Garhakota), Sagar

Visit of Peer Review Team of ICAR for Accreditation of the University
- On the basis of Self Study Report submitted by the University, the Indian Council of Agriculture Research, New Delhi constituted a 5 members Peer Review Team for the accreditation of the JNKVV, Jabalpur. The Peer Review Team of ICAR visited the University from October 27th to 31st, 2014. The Chairman of the team Dr. C. Ramasamy, Former Vice Chancellor of Tamil
Nadu Agriculture University, Coimtore (Tamil Nadu) along with 4 members including Dr. T.A. More, Vice Chancellor of Mahatma Phule Krishi Vidyapeeth, Rahuri (Maharashtra) Dr. Syed Akhtar Hussani, Professor & Head, Biotechnology, Jamia Milia University, Aligarh (U.P.), Dr. Upendra Koul, Director, IBRC, Jalandhar (Punjab) and Dr. K.P. Tripathi, Principal Scientist, ICAR, New Delhi conducted inspection of all the colleges, research stations, Krishi Vigyan Kendras, Agriculture Farms, Various Project, Scientific Laboratories, Hostels, Sports Facilities and submitted its report to the ICAR, New Delhi. On the basis of this report the National Agricultural Education Accreditation Board of the ICAR granted accreditation to the JNKVV, Jabalpur for five years w.e.f. 16.03.2015 to 15.03.2020.

Awards/Honours

Mahindra Samridhi National Agriculture Education Award

Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur received the "Mahindra Samridhi National Agriculture Education Award 2015" under the National Agriculture Education Prosperity Honor Award category. The prestigious award run by repute company Mahindra & Mahindra to encourage different stakeholders in the farming by adding festivity and glory with the profession. On February 24th, 2015 Hon'ble Vice Chancellor, Professor V.S. Tomar has received honor at the hand of Union Agriculture Minister Shri Radhamohan Singh at New Delhi.

- **Deutscher Akademichen Ausfauschdients (DAAD)** Fellowship: Shri A.R. Wasnikar, Assistant Professor awarded "Deutscher Akademichen Ausfauschdients (DAAD)" fellowship for Degree program in Agricultural Sciences and Resource Management in the tropics and sub tropics from "Fredrich wilhelm University" BONN, Germany during 1992-1995.
- **Best KVK Award 2000-01**: KVK, Chhindwara received Best KVK Award for the biennial year 2000-01 from ICAR for outstanding contribution.
- **Best Paper Award**: Dr. (Mrs.) Om Gupta bagged with best paper award in National Symposium on "Pulses for sustainable agriculture and national security organized by 'Indian Society of Pulses Research and Development' at IARI, New Delhi from April 17-19, 2001.
- **CGIAR'S 'King Baudonin Award 2002' and ICRISAT'S Doreen Mashler Award 2002**: "The Chickpea Team" JNKVV, Jabalpur honoured by ICRISAT, Director General for their contribution to Chickpea improvement research that has been awarded CGIAR’S ‘King Baudonin Award 2002’ and ICRISAT’S Doreen Mashler Award 2002 for collaborated Chickpea research with NARS partners. On behalf of the Chickpea team, Dr. Om Gupta received the certificate on 16th January 2003.
- **ISPRD Recognition Award 2003**: Dr. Om Gupta, honoured with prestigious award "ISPRD Recognition Award 2003" for her
contribution in Pulses Research and Improvement. The Award consists of memento and certificate presented by Sh. Rajnath Singh, the then Union Agril. Minister, Govt. of India during inaugural function of National symposium organized by Indian Society of Pulses Research and Development, IIPR, Kanpur.

- **Best Centre Performance Award 2006**: In recognition of outstanding contribution in Chickpea research "The Chickpea team, JNKVV, Jabalpur bagged with "Best Centre performance Award 2006' by ICAR on 10th Annual group meet of AICRP on Chickpea and MULLARP held at BAU Ranchi, 2007

- **Dr. Rafi Ahmed Kidwai Award 2007** was conferred on Dr. S.K. Rao, Professor and Head, Plant Breeding and Genetics for valuable contribution in the field of genetics and plant breeding by ICAR, New Delhi.

- **Jawaharlal Nehru Award (ICAR) 2007**: Shri Kundan Kumar Jain carried out Ph.D. research work under the guidance of Dr. A.K. Shrivastava, Professor, Farm machinery & Power Engineering and received Jawaharlal Nehru award for post graduate agricultural research 2007 for outstanding research in the field of Engineering & Technology.

- **Kailash Nath Katju Award 2008**: Dr. S.K. Rao, Dean, College of Agriculture, Rewa was awarded for valuable contributions in the field of crop improvement and seed production by the Department of Science & Technology, Government of Madhya Pradesh, Bhopal.

- **Outstanding Team Research Award 2007-2008**: The team comprising of Dr. A.N. Shrivastava, Professor; Dr. S.K. Rao, Dean; Dr. (Smt.) S. Rao, Professor; Dr. R.K. Varma, Professor; Dr. M.S. Bhaile, Assoc. Professor; Dr. D. Khare, Professor; Dr. M.K. Shrivastava, Tech. Asstt.; and Dr. B.D. Ghode, Assoc. Professor was awarded for outstanding research on Soybean by ICAR, New Delhi.

- **Bharat Ratna Dr. C. Subramaniam Award** for Outstanding Teacher in Agriculture and Allied Sciences Biennium 2007-2008 was conferred on Dr. Dhirendra Khare, Professor, Department of Plant Breeding and Genetics by the Indian Council of Agricultural Research, New Delhi for excellent teaching in the field of Crop Science.

- **Millennium ICRISAT Science Award-2008** was conferred on Dr. (Smt.) Om Gupta; Dr. (Mrs.) Anita Babbar and Dr. A.K. Bhowmick, Professors as Outstanding Partnership - Partner Institution in recognition of their contribution in Chickpea research towards adoption of improved Chickpea cultivars in Southern India, Myanmar and Ethiopia.

- **M.J. Narsimhan Award**: Dr. Ashish Kumar received First Prize in M.J. Narsimhan Award competition at Zonal level in IPS-MEZ Annual Meeting & National Symposium on Advances in Microbial Diversity and Disease Management.

- **Best Zonal KVK Award of ICAR 2009-10**: KVK, Jabalpur was awarded for excellent performance at Zonal level (Zone VII).

- **Best AICRP Plant Physiology centre discipline award 2012**: Dr. I.M. Khan, Principal Scientist, Plant Physiology, College of Agriculture, Rewa awarded with certificate of excellence for execution of DRR rice physiology programme at College of Agriculture, Rewa as Best AICRP Plant Physiology centre discipline wise for 2011-12 in 47th Annual Rice Group Meeting organized at Directorate of Rice Research (ICAR), Hyderabad on April 7, 2012.

- **Best Research Center Award (2013)**: Jabalpur has been recognized as Best Research Centre of All India Coordinated Research Project of Forage Crops at National level.

- **Best Breeder Seed Production Centre Award (2014)**: JNKVV, Jabalpur has been recognized as top ranking University for performance in breeder seed production at National level.

- **ISWS Young Scientist Award 2014**: Dr. A.K. Jha, Agronomist received the ISWS Young Scientist Award 2014 by Indian Society of Weed Science at Biennial Conference held at DSWR, Jabalpur during 15-17 February, 2014.

- **Best Poster Presentation Award 2014**: Dr. V. K. Shukla and Dr. S.K. Vishwaswarma (Agronomists) received the Best Poster Presentation Award in the National Seminar "On Relevance of Organic Farming in India." organized by National Institute of Advance Science at Indian Institute of Science, Bangalore from 3-4 February 2014.

- **Dr. S.K. Tripathi**, Principal Scientist, Plant Pathology, College of Agriculture, Rewa was awarded IPS KPV Menon best research paper award by Indian Phytopathological Society, Division of Plant Pathology, IARI, New Delhi during 2006, 2007, 2009 & 2010 at Siliguri, Jabalpur, New Delhi & Anand respectively.

- **Dr. R.K. Tiwari**, Sr. Scientist, AICRP (Rice), College of Agriculture, Rewa awarded 'JNKVV Best Teacher Award 2014' on Golden Jubilee Celebration at Jabalpur. The Award was given by Shri Gauri Shankar Bisen, Hon'ble Minister, Department of Farmer Welfare and Agriculture Development, Government of Madhya Pradesh and Prof. V.S. Tomar, Vice Chancellor JNKVV, Jabalpur on 1 October, 2014.

- **Dr. R.P. Joshi**, Senior Scientist, College of Agriculture, Rewa awarded 'Outstanding State level Chief Minister Excellence Award' on 1 November 2014 on the eve of 'Sthapana Divas' ceremony of MP at Lal Pared Ground Bhopal by Hon'ble Chief Minister Shri Shiv Raj Singh Chauhan.

- **Dr. R.S. Shukla**, Principal Scientist, Wheat Improvement Project and Dr. P.C. Mishra, Principal
Scientist, ZARS, Pawarkheda were awarded plaque of honour for “Recognition of the services provided for the improvement and development of wheat in Madhya Pradesh during the International Seminar held on 24 August 2014.

Dr. A.N. Shrivastava, Principal Scientist (Plant Breeding), JNKVV, Jabalpur awarded ‘Solidaridad Award’ on June 10, 2015, in National Conference on Sustainable Soy, Bhopal organized by Solidaridad, South and South East Asia, for his commendable breeding research work in the development of mega varieties of soybean covering more than 85% area of the country.

**Farmer Fellow Award**

On the occasion of ‘Founder day of JNKVV’ (1 October, 2014), five best farmers viz., Mr. Roshanlal Vishwakarma (Narsinghpur), Mr. Madhusudan Tonpe (Chhindawada), Mr. Alok Kumar Verma (Betul), Mr. Shivram Sanodiya (Seoni) and Mr. Narayan Singh Patel (Narsinghpur) were honoured with ‘Farmer Fellow Award’.

**Agriculture Science Exhibition**

Agriculture Science Exhibition involving different themes expressed through posters by postgraduate students on 1 October, 2014 at College of Agriculture, Jabalpur was inaugurated by Shri Gouri Shankar Bisen, Hon’ble Minister, Department of Farmer Welfare and Agriculture Development, Government of Madhya Pradesh.

Many students also received prestigious awards for presenting their research work in the national and international conferences.

**Golden Jubilee Year Convocation**

The Golden Jubilee Year Convocation was organized on 27th June, 2014. President of India, Shri Pranab Mukherjee was the Chief Guest on the occasion of convocation ceremony. The Governor of Madhya Pradesh and Chancellor of the University, Shri Ram Naresh Yadav presided over the function. Chief Minister, Shri Shivraj Singh Chouhan; Minister of Farmer Welfare and Agriculture Development, Shri Gouri Shanker Bisen; State Minister of Public Health and Family Welfare, Shri Sharad Jain and Member of Parliament, Shri Rakesh Singh witnessed the function as Guests of Honour.
Prof. Vijay Singh Tomar, Vice Chancellor, JNKVV, Jabalpur delivered the welcome address. Shri Rajesh Paliwal, Registrar, JNKVV, Jabalpur convened the programme.

Dr. Kedar Nath Singh Yadav, Vice Chancellor, Rani Durgawati Vishwa Vidyalaya, Jabalpur, Dr. Amarjit Singh Nanda, Vice Chancellor, Nanaji Deshmukh Veterinary Science University, Jabalpur, Dr. D.P. Lokvani, Vice Chancellor, Medical University, Jabalpur, Members of the Board of Management, Academic Council, Administrative Council, Directors and Deans, Head of the Departments, faculty members, other staff, esteemed guests and alumni of the JNKVV were present on the occasion.

During the Golden Jubilee Convocation, Bharat Ratna, Dr. A.P.J. Abdul Kalam, Ex. President of India and Padma Vibhusan, Dr. M.S. Swaminathan were conferred the Doctor of Science (Honoris Causa) by the University.

In the convocation, 643 graduates, 481 postgraduates and 23 Doctorate of Philosophy degrees were awarded. Doctorate Degrees were presented to 23 students by the Governor and Gold Medals and cash prizes to 19 students by the President of India.

**Golden Jubilee Year Celebrations**

During Golden Jubilee Year celebrations 2014 of the University, several National and International Conferences/Seminars were organized.

1. **53rd All India Wheat & Barley Workers Meet and International Seminar**

The 53rd All India Wheat and Barley Workers Meet was organized at Jabalpur under the joint
auspices of JNKVV, Jabalpur and Directorate of Wheat Research, Karnal from 22-25 August 2014.

2. National Seminar on Enhancing Agriculture Profitability through Value Addition

National Seminar on Enhancing Agriculture Profitability through Value Addition was organized under joint auspices of JNKVV, Jabalpur and World Bank Project on Madhya Pradesh Water Sector Restructuring Project (MPWSRP) during 25-26 July 2014 at College of Agricultural Engineering, Jabalpur.

3. National Seminar on Technologies for Sustainable Production through Climate Resilient Agriculture

National Seminar on Technologies for Sustainable Production through Climate Resilient Agriculture was jointly organized by JNKVV, Jabalpur and CRIDA, Hyderabad under NICRA Programme on 8 August 2014.

4. National Seminar on Medicinal and Aromatic Plants: Buyers-Producers Meet

National Seminar cum Buyers and Producers Meet on improved agriculture, processing and commercialization/business of medicinal and aromatic plants was organized by the

Department of Plant Physiology, JNKVV, Jabalpur with support from National Medicinal Plants Board, New Delhi and National Horticulture Mission, New Delhi from 12-13 August, 2014.

5. Interface Meet on Management of Economically Important Insects in India

An Interface Meet on Management of Economically Important Insects in India was jointly organized on 16 August 2014 by JNKVV, Jabalpur and Entomological Society of Central India.

6. National Conference on Soil Health: A Key to Unlock and Sustain Production Potential

Jabalpur Chapter of Indian Society of Soil Science, Department of Soil Science &
Agricultural Chemistry, JNKVV, Jabalpur in collaboration with Indian Institute of Soil Science, Bhopal, Indian Society of Soil Science, New Delhi and Borlaug Institute for South Asia organized a National Conference on Soil Health: A Key to Unlock and Sustain Production Potential from 3-4 Sept. 2014.

7. National Workshop on Biotechnology for Sustainable Agriculture

National Workshop on Biotechnology for Sustainable Agriculture was organized by Biotechnology Centre, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur with support for Madhya Pradesh Council of Science & Technology, Bhopal from 8-9 September, 2014. The prominent among the guests and participants were Prof. V.S. Tomar, Vice Chancellor, JNKVV, Jabalpur, Dr. H.S. Gupta, Director General, Borlaug Institute for South Asia (BISA), Dr. A. Pandey and Dr. R.K. Kehtrpal.

8. National Seminar on Challenges and Opportunities for Agriculture Crop Production under Climate Change

Two day National Seminar on Challenges and Opportunities for Agriculture Crop Production under Climate Change was organized during 21-22 September, 2014 at College of Agriculture, Rewa.


A National Conference on "Pulses: Challenges and Opportunities under Changing Climatic Scenario" was inaugurated by Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR, New Delhi on September 29, 2014 at JNKVV, Jabalpur.

Swachh Bharat Abhiyan

The University celebrated "Swachh Bharat Abhiyan" programme during closing ceremony of Golden Jubilee Year on 2 October, 2014 in the presence of Hon’ble Vice-Chancellor, faculty, staff and students. During the abhiyan, campus was cleaned by the faculty, staff and students of the University.

Book Exhibitions by Central Library during Golden Jubilee Celebrations 2014

Book Exhibition: Four book exhibitions were organized by Central Library between July - September 2014 involving Himalaya Publishing House Pvt. Ltd. (8-9 August 2014); Scientific
Publishers (India) (22-25 August, 2014); Astral International Private Limited (3-4 September 2014) and New India Publishing Agency (29-30 September and 1 October, 2014).

**Microbes Research and Production Centre Inaugurated**

Deterioration in environment and soil resources due to continuous use of agro-chemicals, climbing cost of agri-inputs and increasing demand of organic agricultural produce necessitates the reduction in use of chemicals through promoting uses of biofertilizers and biopesticides in agricultural production system. With the collective efforts of JNKVV, Jabalpur and State Govt., organic farming got popularized and use of biofertilizers and biopesticides received greater attention in the State of Madhya Pradesh during the recent past. In view of increasing demand of biofertilizers and biopesticides a “Microbes Research and Production Centre” is established at JNKVV, Jabalpur with the financial aid of Mandi Board, Govt. of Madhya Pradesh, Bhopal. This centre was inaugurated by Hon'ble Chief Minister of Madhya Pradesh, Shri Shivraj Singh Chauhan on June 1, 2015 in the presence of Shri Gaurishankar Bisen, Hon'ble Minister, Department of Farmer Welfare and Agriculture Development, Govt. of Madhya Pradesh and others in the Chairmanship of Prof. Vijay Singh Tomar, Hon'ble Vice Chancellor, JNKVV, Jabalpur.

Currently the Centre is capable of producing two tones of carrier based biofertilizers daily. In the coming years, this Centre will also be capable of producing liquid biofertilizers. Presently centre is producing *Rhizobium* biofertilizers for different leguminous crops, *Azotobactor* and *Azospirillum* and Phosphate Solubilizing Bacteria biofertilizers and endopathogenic fungus biocontrol agents (*Trichoderma*) for all crops. These biofertilizers and bio-control agents are very useful for enhancing the productivity of crops and increasing the nutrient use efficiency in crops. Establishment of this Centre at JNKVV, Jabalpur will meet the biofertilizers requirement of farming community to the greater extent in the state to accelerate the adoption of organic farming.

**Publications**

- JNKVV at a Glance, JNKVV Newsletter, Annual Report
- JNKVV Research Journal, Research Highlights, JNKVV Year Planner
- University and College Profiles, Krishi Vishwa, Jawahar Krishi Sandesh
- Souvenir, Course Curricula, Text Books, Thesis Preparation Manual
- Practical Manuals and Question Banks, Training Manuals, Periodicals
- Technical Bulletins, Leaflets, Folders, Diary and Calendar.
RESEARCH

Research Stations

Zonal Agricultural Research Stations (4)
- Jabalpur
- Powarkhed, Hoshangabad
- Kundeshwar Farm, Tikamgarh
- Chhandagaon, Chhindwara

Regional Agricultural Research Stations (4)
- Kuthulia Farm, Rewa
- Bamhori Farm, Sagar
- Murjar Farm, Waraseoni, distt. Balaghat
- Tribal Agricultural Research Station, Dindori

Agricultural Research Stations (4)
- Navgaon, Chhatarpur
- DHRTC, Garhakota, Sagar
- ARS, Tendani, Distt. Chhindwara
- ARS, Sausar, Distt. Chhindwara

Research Projects

All India Coordinated Research projects/ICAR Network projects, Government of India projects, are in operation to carry out the research work in agriculture and allied fields, besides extending product testing facility for the Corporate sector. The number of ad-hoc projects funded by State, National and International agencies like JICA, ICRISAT, IRRI, ICARDA, CIMMYT are also in operation.

Research Achievements

During last ten years, JNKVV has developed several promising crop varieties at National and State level.

At National Level

<table>
<thead>
<tr>
<th>Crop</th>
<th>Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybean</td>
<td>JS 20-69, JS 20-29, JS 20-34</td>
</tr>
<tr>
<td>Niger</td>
<td>JNC 6, JNC 9</td>
</tr>
<tr>
<td>Chickpea</td>
<td>JGK 1, JG 36, JG K5</td>
</tr>
<tr>
<td>Wheat</td>
<td>MP 4010, JW 1203, MP 3288, MP 3336, JW 1215, MP 1255, MP 3222</td>
</tr>
<tr>
<td>Rice</td>
<td>JR 81, JR 767, JRH 19</td>
</tr>
<tr>
<td>Small millets (Kodo)</td>
<td>DPS 91, Fodder - Rice-bean, J 05-2 (CVRC) (Raj moong)</td>
</tr>
</tbody>
</table>

At State Level

<table>
<thead>
<tr>
<th>Crop</th>
<th>Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>JW 1106, JW 1142, JW 3020, JW 3173, JW 3211, JW 1202, JW 1201, JW 3269</td>
</tr>
<tr>
<td>Barley</td>
<td>JB 15, JB 58</td>
</tr>
<tr>
<td>Kodo millet</td>
<td>JK 136, JK 439, JK 137</td>
</tr>
<tr>
<td>Little millet</td>
<td>JK 4, DPS 48</td>
</tr>
<tr>
<td>Fenugreek</td>
<td>JR 68</td>
</tr>
<tr>
<td>Pearl millet</td>
<td>JBV 3, JBV 4</td>
</tr>
<tr>
<td>Cotton</td>
<td>JKHy 3, JK 23, JK 35</td>
</tr>
<tr>
<td>Niger</td>
<td>JNC 1, JNC 30</td>
</tr>
<tr>
<td>Mustard</td>
<td>JM 2, JM 3, JMM 99, Gobi Sarson - J.Teri Uttam</td>
</tr>
<tr>
<td>Chickpea</td>
<td>JG 63, JG 412, JAKI 9218, JG 226, JG 14, JG 6, JG 12</td>
</tr>
<tr>
<td>Safflower</td>
<td>JSF 97, JSF 99</td>
</tr>
<tr>
<td>Moong</td>
<td>TJM 3</td>
</tr>
<tr>
<td>Urad</td>
<td>JU 86</td>
</tr>
<tr>
<td>Sorghum</td>
<td>JJ 1022</td>
</tr>
<tr>
<td>Oat</td>
<td>JO 1, JO 61, JO 04-315</td>
</tr>
<tr>
<td>Rice</td>
<td>JR 503, JRH 4, JRH 5, JRH 8</td>
</tr>
<tr>
<td>Kabuli Chickpea</td>
<td>JGK 2, JGK 19</td>
</tr>
<tr>
<td>Soybean</td>
<td>JS 95-60, JS 97-52</td>
</tr>
<tr>
<td>Sesame</td>
<td>TKG 306, PKDS 12, PKDS 14, TKG 14, TKG 308</td>
</tr>
<tr>
<td>Linseed</td>
<td>PKDL 41, JLS 73, JLS 67</td>
</tr>
<tr>
<td>Tomato</td>
<td>Jawahar Tomato 89</td>
</tr>
<tr>
<td>Barseem</td>
<td>JB 5, JB 1</td>
</tr>
<tr>
<td>Maize (popcorn)</td>
<td>J.POP 11</td>
</tr>
<tr>
<td>Maize</td>
<td>JM 482</td>
</tr>
<tr>
<td>Pigeonpea</td>
<td>JKM 189</td>
</tr>
<tr>
<td>Groundnut</td>
<td>JGN 23</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>Co JN 86-600, CoJN 95-05</td>
</tr>
</tbody>
</table>

Jawahar Biofertilizer

Commercial production of new generation economically microbial cultures using efficient and proven isolates from iCAR Network Project is undertaken through automatic culture production plant. Jawahar Biofertilizer: Jawahar Rhizobium for legumes, Jawahar Azotobacter for all crops Jawahar Azospirillum for all crops, Jawahar Phosphate Solubilizing Biofertilizer for all crops, Jawahar BGA for paddy, Jawahar Trichoderma for
all crops are being currently produced commercially.

**Post harvest and processing technologies**

Water chest nut Decorticator, Fruit Grader, Power Operated Pea Shelling, Power Operated Pod Shelling machines, seed choke indicator for tractor driven seed drills and Guggul Blazer device for continuous and safe flow of guggul gum.

**Key Research Accomplishments**

JNKVV has made outstanding achievements in the last five decades that has resulted in changing the socio economic status of farming community. The University contributes to food security through development of crop varieties. Since inception total 338 varieties of different crops has been developed. Seventy Eight Varieties of different 28 crops developed during last 10 years are; 13 of wheat, 10 of chickpea, 5 of kodo, 5 of sesame, 4 each of rice and linseed, 3 each of cotton, niger, soybean and mustard, 2 each of barley, bajra, kutki, safflower, berseem, oat and maize and 1 each of fenugreek, tomato, gobisarson, urad, sorghum, moong, pionpea, sugarcane, groundnut fodder and millet.

- The JNKVV is credited for developing the first coloured cotton variety (JCC 1) and the first white rust resistant variety (JM 1) of mustard in the country.
- University has been first in developing a replica of indigenous coloured hen (Krishna-J) for rural and tribal poultry keeping.
- The JNKVV has done pioneering work of collection, evaluation and utilization of diverse and rich germplasm of different crops including kodo, kutki, upland rice of the State.
- Some other outstanding contributions are development of early maturing rice hybrids first of its kind, high yielding with good quality wheat varieties of sharbati and durum and wheat varieties suitable for semi irrigated conditions, wilt resistant varieties of chickpea and powdery mildew resistant varieties of pea.

- Brought hybrid rice revolution through development of early maturing hybrid rice varieties JRH 4, JRH 5 and JRH 8.
- Developed the world famous Jawahar Soybean series of soybean varieties with better oil (18-20%) and protein (40-42%) content with resistance to major diseases, which laid strong foundation for expansion of its area and production in the country, which has recognized the Madhya Pradesh as “Soya State”
- JS 93-05 released in 2002 became very popular among farmers and started replacing JS 335.
- JS 95-60 (80-90 days) released in 2007, which has become very popular among the farmers of medium rainfall and upland areas of vertisols.
- JS 97-52 (100-105 days), JS 20-29 (95-100 days) and JS 20-34 (85-90 days) a multiple resistant high yielding cultivar, recently released are also becoming popular among the farmers. These all varieties have served the purpose in breaking mono-culturing. JNKVV varieties are covering 92% soybean growing areas of the country.
- JG 11 brought the chickpea revolution in southern state particularly Andhra Pradesh occupied 90% area as well in Karnataka.
- JG 74, JG 130, JAKI 9218, JG 16, JG 63 varieties of chickpea have made diversification in different parts of the state. At national level, 45% area of chickpea is covered by the JNKVV varieties.
- JG 14 - World's first heat tolerant chickpea variety released by JNKVV, Jabalpur.
- Introduction of JGK 1 and JGK 2 Kabuli chickpea varieties led to expansion of 15% area.
- M.P. Wheat is known for its quality. Numerous quality wheat varieties that had been developed in past and continue in present are: JW 3020, JW 3211 and JW 1203 (new). JW 1215 of durum wheat is suitable for export.
- Developed high yielding small millet varieties of Kodo (14 varieties), ragi and kutki (3 varieties each) for food security in tribal areas of the state.

- Developed improved varieties of vegetables such as chillies (2 varieties), table and field pea (5 varieties), sweet potato (2 varieties), brinjal (2 varieties), tomato (1 variety) and Indian bean (4 varieties).

- The JNKVV has been the largest producer of Breeder Seed at National level since 1980. At present the University is producing 19200 qts. Breeder seed from 90 varieties of 23 crops.

- JNKVV contributed in the breeder seed production of Rice (42%), Wheat (33%), Soybean (29%) and Chickpea (18%) at the national level.

- Developed high yielding varieties of medicinal and aromatic plants such as opium poppy (2 varieties), Ashwagandha (2 varieties), Isabgol (1 variety) and Safed musli (1 variety).

- About 1100 species of 450 genera of medicinal and aromatic paints are being conserved besides development of 12 varieties of 7 crops and agro techniques of 10 crops.

- Significant contribution towards approaches for sustainability through the development of crop varieties resistant to diseases such as YMV of soybean (JS 97-52), white rust (Jawahar Mustard-1), downy mildew (Jawahar Bajra Hy.1), wilt (Jawahar Gram 315, Jawahar Gram 16, Jawahar Gram 130, Jawahar Gram 63), powdery mildew (Jawahar Moong-721), wilt and sterility mosaic (Pigeonpea JKM-7) Phytophthora blight (Jawahar Til-22), powdery mildew and wilt (Jawahar Pea-885), fruit rot (Jawahar Mirch-218) and scurf (Jawahar Sweet potato 145).

- Developed management practices for black soils of high rainfall areas such as (a) Ridge furrow system for planting of up land crops, (b) Raised and sunken bed technologies and (c) rainwater recycling technology for efficient use of land and water resources.

- Identified potential cropping system for different agro climatic zones for irrigated and rainfed situations.

- Evolved production technology for 30 medicinal and 6 aromatic plants. Quality analysis lab supports the value addition in this sector. Recently, under HRD programme of ICAR the R&D activities of M&A plants under JNKVV have been identified as NICHE area to develop the "Centre of Excellence" & "Facilitation Center". This helps in promotion of farming of medicinal and aromatic crops for income and employment generation.

- Promoted ridge and furrow system of soybean planting which enhanced the productivity of soybean up to 40% under excessive rainfall condition as well as under water stress condition.

- Promotion of System of Rice Intensification which enhanced the profitability from rice due to enhance productivity and optimization of resource use.

- For promotion of integrated farming systems, the Vishwa Vidyalaya has developed production technology for lac production, beekeeping, mushroom production, inland fisheries, poultry, vegetable production, small processing units etc.

- Developed technologies for soil conservation, ground water recharge, low water lifts, water & energy saving in irrigation.

- For improvement of water productivity the Water Resources Restructuring project is in operation in five river basins covering 25 districts of Madhya Pradesh. The outcome of the project will definitely help in improving the water use efficiency especially under rainfed farming areas of the state.

- Developed soils test based fertilizer adjustment equations for 16 major crops of the State for
achieving desired yield targets.

- No changes were observed in soil reaction and soluble salts content of soil as a result of continuous use of balanced fertilization for over the last 38 years in addition there was increase in SOC.

- Critical limits of Zn, S and Fe have been established for different soils and crops

- Generated soil fertility maps of state for major and micronutrients.

- Molecular diversity of soybean rhizobia was assessed in Madhya Pradesh. M.P. soils harbour mostly slow growing species (B. japonicum and B.elkani). Fast growing species are not common.

- Seed inoculation is mandatory every year

- There is residual benefits of 20-30 kg N ha-1 by soybean to succeeding wheat crop

- Developed packages for economic and efficient use of fertilizers, manure and bio-fertilizers.

- Developed technology for High tech horticulture and successfully produced coloured capsicum, Jerbera, bud roses and cherry tomatoes.

- Developed Jawahar Light trap for monitoring of insect-pest occurrence.

- Integrated Pest Management package for the management of major insect pest diseases has been developed.

- Package for cultivation of betel vine with efficient and economical management of phytophthora blight diseases has been developed and popularized.

- Identified broad based stable/ moderately resistant genotypes for wilt and dry root rot in chickpea.

- Developed low cost technology for cultivation of oyster and button mushroom.

- Plant Parasitic Nematodes - Documented hot spots for economically important plant parasitic nematodes in Madhya Pradesh and Chhattisgarh: Root-knot (Vegetables), Pratylenchus thornei (Chickpea), Rotylenchulus reniformis (Soybean), Aphelenchoides besseyi (Paddy), Tylenchulus semipenetrans (Citrus) & Radopholus similis (Banana).

- Developed technology for dematization of Ginger root knot & management of lesion nematode (Pratylenchus thornei) in chickpea and soybean by deep summer ploughing along with seed treatment with carbofuran (0.1%) 


- Developed electronic instruments such as Multi channel electronic choke indicator for tractor driven seed drills, Digital grain moisture meter, Fertilizer recommendation package, micro controller based rice polish measurement system, Low cost Soil Moisture Indication System, Soil nutrient estimation system, Micro controller based sulphur estimation system and personal computer based Monitoring system for safe grain storage.

- Developed multimedia software for implementation of available agricultural technologies for various crops.

- Developed e-IPM multimedia bilingual (English/Hindi) software developed for pest, disease, nematode, weeds, and nutrient disorder management of major oilseed and pulse crops of central India.

- Database Generation & Evaluation of Production Technologies for Medicinal & Aromatic Plant designed in modular, sub-modular and dynamic in nature. Information needed for creation of database for fifty crops.
Patents

- **Jawahar Guggul Blazer**

A new tapping device for sustainable harvesting of Guggul has been developed and filed provisional application for patent of the device.

A new device - Jawahar Guggul Blazer for sustainable tapping of Guggul. Jawahar Guggul Blazer - a new tapping device has been designed for sustainable harvesting of Guggul. Guggul gum is collected after making a sharp incision on the bark of Commiphora wightii plant. In the absence of a specialised tapping device and deep tapping the plant is being pushed to RET category in India. Jawahar Guggul Blazer has a high carbon steel roller blade (5mm wide and 3.5 cm diameter) fitted to a steel shaft (145 mm long and 10 mm diameter) with its distal holder 35 mm long and 20 mm wide. The roller blade moves freely on its axle, is fitted in the 28 mm groove on the distal end of the shaft. The sharp blade is 2.0 mm long and 0.5 mm wide with 1.5 mm flat rim on its either side of the blade. The rim on the either side of the blade acts as a stopper preventing the sharp blade from traveling beyond 2.0 mm depth in the bark, even on application of pressure during tapping.

- **Seed Drill Choke Indicator**

Patent has been granted for the developed invention entitled A sensing device for use with a tractor in accordance with the provision of the patent Act 1970. Application No. 746/DEL/1977. Patent filed through the funding agency i.e. Secretary, Department of Electronics, Government of India, New Delhi. Inventors are A. K. Rai, K. Shivdasan, and S. N. Murty. Patent No. 232368.
Directorate of Extension Services was started since the inception of Vishwa Vidyalaya in 1964 and has a key role in dissemination and transfer of latest technology in the field of crop production, crop improvement, cropping system, nutrient management, plant protection, horticultural crops management, agro-forestry, wasteland management, watershed management, medicinal and aromatic plants, cattle and poultry management, agricultural machinery, post harvest technology, value addition and resource management, emanating from various research programmes to the farming community and extension personnel to minimize the technological gaps, existing among the farming community through extension activities for enhancing productivity, profitability and sustainability of agricultural production systems and quality of rural livelihood. The Krishi Vigyan Kendras (KVKs), Communication Centre and Agricultural Technology Information Centre (ATIC) are the integral part of Directorate

The main objectives of the Directorate are:

- Transfer of technologies, assessment, application, refinement and feedback for the researcher.
- Up gradation of knowledge and skill of extension functionaries as well as farming community.
- Development and dissemination of technologies through print and electronic media.
- Catering needs of farming communities through single window system.
- Linkage with line departments and Developmental Organizations.
- Reviewing the activities of KVKs, technological backstopping of KVK Scientists and extending technical guidance in formulating action plan.

**Krishi Vigyan Kendra (KVK)**


**Mandates of KVK**

- Conducting "On-Farm Testing" for identifying technologies in terms of location specific sustainable land use systems.
- Organizing training to update the extension personnel with emerging advances in agricultural research on regular basis.
- Organizing short and long term training courses in agriculture and allied vocations for the farmers and rural youths with emphasis on "Learning by doing" for higher production on farms and generating self-employment.
- Organizing Front Line Demonstrations (FLDs) on various crops to generate production data and feedback information.

**On farm testing**

OFTs on different aspects of crop production and protection were conducted by KVKs. These were conducted in participatory mode farmers’ fields. The suitable technologies identified by the scientists were taken in the FLDs programmes for their wider acceptability and horizontal expansion.

**Frontline demonstrations**

A comprehensive FLD programme on oilseed (soybean, niger, sesame, groundnut, linseed,
Frontline demonstration and on-farm testing

mustard) and pulses (arhar, moong, urid, lentil, pea and gram) was taken up on farmers field through KVKs for transferring the improved location specific technologies. Nearly one third of the beneficiaries belongs to weaker section. Major emphasis was given on introduction of improved varieties, IPM, INM and IPDM.

Training programmes
To update the knowledge and skill of extension functionaries, KVKs offers courses on latest production technology of field crops, vegetables, fruit crops, livestock management, medicinal and aromatic plants. Vocational training courses are organized for rural youths, school dropouts etc. to generate employment opportunity through cattle management, poultry, lac cultivation, maintenance and repair of farm equipments, mushroom cultivation, vermi-composting, nursery management, vegetative propagation of fruits and ornamental crops to be self dependent. Trainings on kitchen gardening, tailoring, preservation, health and hygiene. Screen painting, tie and dye printing and safe grain storage to rural youths and farm women are imparted. Sponsored trainings are conducted to farmers and field extension personnel.

Plant Clinic and Advisory Services
KVKs are providing plant clinic service to give suitable solution to the farmers’ telephonically. Scientists’ visit to the farmers’ field is also conducted for diagnostic services. Other than the regular services, KVK also connect the farmers to the other developmental agencies.

Kisan Mobile Sandesh
The programme was launched by the University in 2008-09 through which need based technologies in the form of messages are sent to farmers on mobile twice a week in Hindi.

Specific Programs
- KVK Shahdol, Katni, Seoni, Rewa, Jabalpur, Umaria, Balaghat, Dindori and Mandla started SRI popularization on large scale.
- The NAIP funded project is implemented in four districts viz. Chhattarpur, Tikamgarh, Betul and Mandla through different non government agencies and KVKs with the objectives to promote integrated farming system modules to ensure the livelihood security of small and marginal farmers.
- NICRA project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants.
- Seed village programme was implemented through all the 20 KVKs in both the seasons. Quality seeds were made available to farmers. This helped in improving the seed replacement rate in the state. Infrastructural facilities were developed in six KVK viz. Betul, Jabalpur, Damoh, Sagar, Katni and Chhindwara to produce quality planting material of horticultural crops.
In crop cafeteria seeds of new crops varieties/hybrids of Kharif and Rabi crops were made available to KVKs with the object to assess and demonstrate the suitability of new crops cultivars. The most appropriate varieties are identified for conducting OFTs and FLDs on farmers’ fields.

**Variety replacement in tribal areas**

This project is implemented in three KVKs for improving the crop productivity in tribal dominated districts viz. Chhindwara, Mandia and Dindori. This programme has made a remarkable impact in tribal areas. The State has the highest population of tribal (23.68%). The tribal farmers responded well to technical inputs of JNKVV in terms of natural resource management, use of improved varieties of maize, cotton and rice and introduction of soybean, castor and vegetables in their cropping systems. The Krishi Vigyan Kendra Dindori, Mandia, Betul, Chhindwara, Shahdol and Umaria have done commendable efforts for socio-economic upliftment of tribes. Similarly, Gonds and Baigas of Eastern tribal regions of the State have been benefited by extension efforts of Krishi Vigyan Kendras of Sidhi, Shahdol, Umaria, Katni and Seoni.

**Radio Programme**

The radio talks recorded at Communication Centre studio were given at AIR Jabalpur for broadcasting in programme "Krishi Vishwa Vidyalaya Se Kheton Tak" on every Monday between 7.20 to 8.00 pm (Prime Time).

All India Radio Rewa, Chhattarpur, Bhopal and Jabalpur broadcasted different programmes on production technologies. Television media has also been utilized for mass dissemination of technologies. ETV and City Cable of Jabalpur featured on different aspects. Similarly, TV talks were broadcasted through Doordarshan Kendra, Bhopal.

**Agricultural Technological Information Centre (ATIC)**

Agricultural Technological Information Centre (ATIC) has been established at Jabalpur to cater the needs of farming community in terms of technological information products offered for sale and services rendered by the university through "Single Window System". Jawahar seeds of improved varieties, planting materials of ornamental plants, fruit trees and other plant material, mushroom spawn, medicinal and aromatic plants and seeds and bio-fertilizers which are being produced and sold in respective production units except technical literature, seed and honey which is sold by ATIC. In coordination with the production and processing units of JNKVV, technology products like milk, horticultural products, animals and animal products, mushroom, implements etc are sold from respective units. Communication centre in the directorate of extension services has well equipped infrastructure and all the publication including package of practices, special issues and other technical literatures are published by this centers as priced publications and sold from ATIC.
Diagnostic Services and Farm Advisory Services

The Mobile Diagnostic cum Exhibition Unit (Traveler Van) established at Directorate of Extension Services to serve the diagnostics services like soil testing, water testing, plant clinic, covering field crops, horticultural crops, medicinal and aromatic crops are rendered.

Farm advisory services works through personal visits, letters, telephone help line, Farmers field visits, kisan sangosthi, farmers scientists interface etc. A special biweekly programme "Sawai kisano ke Jabal Vigyaniko dawara" was initiated in collaboration with AIR. Jabalpur. ATIC also serves farming community through annual structured T.V. programme under "Gram Mangal". Farmers and field extension officers get benefitted with the visit to ATIC. As per the feed back the centre organize training programme on various aspect.

Laminated photographs depicting a various technologies related to Agriculture, Veterinary

Monitoring system

Efforts were made to improve the monitoring and information system. The e-linkage facility has been created in eight KVKS. The reporting system was strengthened, pre zonal and Zonal workshops of KVKS were organized.

Future strategy

Research

Promote need base research and technology generation and commercialization

- Promotion of multi-stakeholder, multi-disciplinary, multi-institutional participatory and consortia based research.
- Agricultural diversification through mixed farming including poultry, apiculture and crop and livestock raising technologies to facilitate intensive production of fruits, vegetables, flowers and other valued crops to increase income of farmers.
- Genetic enhancement for tolerance to biotic and abiotic stresses to cope up with changing climate and shrinking resources.
- Agro-biodiversity conservation and its in-situ and ex-situ conservation and germplasm enhancement and use.
- Seed production in participatory mode
- Research priority for rainfed and tribal areas associated with fragile and marginal ecosystems and venerable groups; and provide gender -friendly technologies, machinery and management options.
- Strengthening research on quality and quantity of region specific crops, vegetables, fruits and other plant products
- Integrated management of natural resources, differentiating natural resources, agricultural potentials and technological opportunities on watershed basis.
- Judicious use of irrigation water with emphasis on on-farm water use efficiency.
- Integrated nutrient and pest management for important cropping systems.
- Promotion of organic agriculture including biopesticide, bio-fertilizer, recycling of farm wastes.
- Post harvest technology processing, product development and value addition.
- Agri-entrepreneurship development for converting small and marginal farmers to agri-entrepreneurs.
- Development of PGPR & mixed consortium biofertilizers
- Long-term effects of balance and imbalance use of inorganic fertilizers and their integration with organic manures on crop yields and soil health
- Development of multi-nutrient extractant with minimum shaking time to make soil testing less time, labour & cost effective

Extension

- TSP project on "Planning Strategies for Social and Economic Development in Tribal Districts" will be implemented in tribal dominating 17 districts of Madhya Pradesh.