Distance Agricultural Education: Perspectives In Agricultural Development In India *

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Higher education is beginning to play an increasingly important role in the process of globalization, which promotes information technology development and diffusion of innovation and the ability of economics to benefit from rapid shift in production goods, services and ideas (Belfield and Levin, 2003). This is more true for Agricultural education which has encouraging internationalization project on the back drop of value addition, export potential and emerging high-tech production systems without loosing sight of the local knowledge needs and infrastructure.

In fact, globalization has effected tremendous change to the character and function of education worldwide (Mone and Tan, 2004). The complexities of and interactions between local, regional and global forces are dominating education policies. In agriculture education sector these complexities have created unending demand for agricultural knowledge, skill and attitude in rural youth. Seeking education farmers and farm women adopting new knowledge, extension worker disseminating it and agricultural scientist generating and developing agricultural knowledge and technology.

With ever increasing demand for higher education in agriculture and allied subjects in India, the conventional SAUs and other schools were left with inadequate resources for meeting the demand. Thus the Distance Education System shouldered the responsibility of agricultural education to some extent.

Concept of Distance Education in India

Distance education and correspondence course is a hundred years old concept, initiated in western world. It is to be understood that presently higher agricultural education faces three challenges. First challenge is its accessibility, second is quality and third is cost of education. Undoubtedly it is agreed that agricultural and allied education should create effective human capital, which is capable of increasing profitability in agriculture enterprise and that it should be able to create social capital, thereby repaying the social costs adequately.

Need and Importance of Distance Education

Distance education may be Dual mode or Single mode system is a nonformal approach characterized mainly by correspondence and individual learning approach. The need for such education has arisen because of population explosion, information explosion and technology explosion. Home study, postal tuition, correspondence study, university or air, teleuniversity, individual learning are the various names attributed to distance learning mainly systematized to cope up with the needs of on job people or of unable to get enrolled in conventional system of education. It may be because of poor socio-economic conditions, low level of entry behaviors and lack of accessibility to conventional system or unsuitability of learning schedules in agriculture.

Exponential growth in demand for higher education and limitations of conventional system to fulfill the needs gave birth to the distance education concept. According to Gaba & Bharat Bhushan (2004) number of colleges in India increased from 750 in 1950-51 to 13150 in 2002-03, the Universities from 30 in 50-51 to more than 300 in 2002-2003 and students from 2.63 lakhs in the year 1950-51 to 88.21 lakhs in 2002-2003. Teachers have increased from 24 thousands to 2.27 lakhs. Still 94 per cent youth between 18-23 years of age are outside the existing system of higher education. Open and Distance education has provided a solution for this. It is well known that 65 per cent population is dependent on agriculture of which 50 per cent are youth who need Agricultural Education to make their business profitable and livelihood sustainable. Distance Education is a right option in this regard.

System Approach

Distance education is based on the system approach and follows the steps given in Fig.1.

Growth of Distance Education in India

As mentioned earlier distance education has a history of 100 years in UK, it initiation in India was made in the year 1964, with the recommendation of Kothari D.S.for establishment of Directorate of Distance Education in Delhi University.

However, agriculture and allied subjects were covered under it with the establishment of first Open University in Andhra Pradesh in 1982 and then BRAOU at Hyderabad and with the establishment of Distance Education Council (DEC) under Statute 28, Section 5(2) of IGNOU Act 1985 under the Parliamentary act. IGNOU encompasses wide range of subjects.

At present there are 12 Open Universities in India. Prominent with regional Open Universities Status in various States are as follows.

1. IGMOU, Nasik, Maharashtra, 1989
2. KOW, Kota, Rajasthan, 1987
3. NOU, Nalanda, Patna, Bihar, 1987
4. MPBOU, Bhopal, M.P., 1991
5. BAOU, Ahmedabad, Gujrat, 1994
6. KSOU, Mysore, Karnataka, 1996
7. NSOU, Culcutta, West Bengal, 1997
8. UPRTOU, Allahabad, U.P. 1998
9. TNOU, Chennai, Tamilnadu, 2003
10. COU, Raipur, Chattisgar, 2003

The details of the aforesaid OU's are given in Table 1. The monitoring of the Open Universities in India is the responsibility of IGNOU, New Delhi.

It is revealed from the details of OU's (Table 1) that lakhs of students register for various programmes in Open Universities to take advantage of distance education system. More than a lakh degrees and diplomas have been conferred to the students in courses in arts and science. But if we look at the development of CAI and Multimedia instructional material except IGNOU and YCMOU the performance is poor. As regards the academic staff also similar scenario is exhibited. Apart from this quality is important about which we will discuss slightly later.

Distance Agricultural Education Programmes

A few Open Universities are offering education programmes related to agriculture leading to various degrees. YCMOU, Nashik, Maharashtra, India is pioneer in distance agricultural education programmes.

Agricultural Education Programme of YCMOU

1. Certificate course in Gardening

a) Principles and Practices of Gardening
b) Fruits, Vegetables & Flower Cultivation
c) Nursery Management
d) Landscape Gardening

2. Foundation in Agricultural Sciences

a) Principles and Practices in Soil Science
b) Principles and Practices in Plant Sciences
c) Principles and Practices in Plant Protection
d) Principles and Practices in Crop Production

3. Diploma in Fruit Production

a) Principles and Practices of Fruit Production
b) Commercial Fruit Production Part-I
c) Commercial Fruit Production part-II
d) Post Harvest Technology of Fruits

4. Diploma in Vegetable Production

a) Principles and Practices of Vegetable Production
b) Commercial Vegetable Production Part-I
c) Commercial Vegetable Production Part-II
d) Post Harvest Technology of Vegetables

5. Diploma in Floriculture & Landscape Gardening

a) Principles and Practices of Floriculture
b) Commercial Flower Production Part-I
c) Commercial Flower Production Part-II
d) Post Harvest Technology of Flower & Landscaping

6. Diploma in Agri-business Management

a) Principles and Practices of Agribusiness Management
b) Agri business Management Part-I
c) Agri business Management Part-II
d) Principles and Practices of Agri business Communication.

7. Bachelor of Science in Agriculture and Horticulture (B.Sc. Agri. and B.Sc. Hort.)

For this 20 courses each are offered and the students have to pass entrance test and submit project report to qualify for the degree.

8. Master of Science in Agricultural Communication, Agricultural Extension and Agricultural Development.

a) Principle and Practices in Distance Education
b) Research Methods and Statistical Analysis
c) Agricultural Extension and Farm Journalism

d) Agricultural Communication and Mass Media
e) Dissertation / Thesis

9. Ph.D. in Agricultural Communication / Agriculture Extension/Agriculture Development

a) Principle and Practices of Distance Education
b) Research Methods and Statistical Analysis
c) Agricultural Development and Multimedia Communication
d) Agricultural Information Technology
e) Dissertation / Thesis

IGNOU Offers only one course i.e. B.Tech. Agril. Engineering and all other OUs have yet to start Agricultural Education.

Agriculture is an applied science and hence development in cognitive, psychomotor and affective domain is necessary to achieve quality and effectiveness in people, products and profits through agriculture per se. The effectiveness of distance agricultural education with limited assess to field work and laboratory work and dependency on study centres for such facilities needs serious thinking. Large infrastructure, research and experimental farms with Conventional Agricultural Universities and Schools for the quality output is being strengthened. The DE can support the conventional systems in this regard.

Distance Education and Quality of Education

Undoubtedly a creation cost effective, high accessibility educational system for accommodating the educationally deprived youth is eminent. The conventional Agricultural Schools of National, Regional and State level could accommodate only about 2 per cent youth who desire to opt for agricultural education. Hence Distance Education through Open Universities is option of prospects. Undoubtedly it should not be at the cost of quality of education and training.

It is said that best teaching / learning situation is that which is easy to access and use. Open Universities provide this education at low cost. Putting more students in a class or huge registration may lower the cost of education but quality goes down (Damiel, 2002). Distance Agricultural Education qualitywise has inherent limitations about field practicals and laboratory experimentation and interactive learning. Care has to be taken that distance education does not become convenience education at the cost of quality. Limitations and preoccupations of the identified study centres also affect their involvement in the instructional programmes of OU students. Hence target oriented ness must be at backseat.

Students Entry Behaviour and Teacher Quality

In particular, the students admitted for higher education leading to Ph.D. in Agricultural Communication, Agricultural Extension and Agricultural Development must possess adequate basic knowledge and qualification. It is seen that students with post graduation in Agricultural Engineering, Agricultural Botany or for that matter any other subject are registered for Ph.D. programme in Communication and Agril. Extension. In fact for Ph.D. in these subjects needs in-depth knowledge of research methodology in communication and social sciences. At times, their "Research Guides" are also not from the discipline of communication and / or Extension Education. Under such cases the authenticity and fidelity of the Ph.D. degree may be at stake.

Open Universities are a striking example of independent and interactive learning. They operate at scale and take full advantage of their large scale to produce high quality material at relatively low cost. For interactive activities they engage on contract large number of tutors and research Guides to be in direct contact with students. These tutors and research guides are expected to be experts in their subjects and be able to give high quality support to students (Daniel, 2002). These Universities or for that matter distance education per se should not be just a tool for distribution of various degrees / diploma and certificates.

Hence, it is essential to recognize the learning and teaching disabilities of the concerned human resource being involved in the distance education process leading to agricultural education.

Economics of Distance Education

Expenditure on education of the total budgeted expenditure on education in First Five Year Plan was 9 per cent, in 4th Plan 25%, 5th 22 per cent and came down to 10 per cent in 10th plan. It indicates that government has reduced the funding for higher education. Expenditure of OUs is very low and funds mainly come through student fees. It is seen that funds for student support services, library facilities, instructional material, multimedia production and design and development of course material are low.

Although the major focus of 10th Plan is to raise enrollment of population between age 18 to 23 years from 6 per cent to 10 per cent, the funding for the OUs is provided on net deficit basis. It adversely affects the quality of education. Undoubtedly increasing enrollment is not the wise remedy for this. Government support needs to be increased.

The cost is mainly dependent upon the following aspects.

1. Number of courses offered
2. Process of course development
3. Use of faculty, regular / part time
4. Use of Instructional media
5. Number of support centres

Research conducted by IGNOU, New Delhi indicates that the annual recurrent cost per student comes to Rs.1830.00. In fact social cost and private costs are additional. It means that scarcity of funds is a major concern for distance education in India.

The major constraints in financial disability in this sector is attributed to

1. Relatively less enrollment
2. High dropout rate
3. Price escalation in electronic goods and their maintenance
4. Study centre staff demanding more money
5. Counsellors demand more money
6. Untimely deposit of fees
7. Subsidy on fees not paid to OUs by Government.

This ultimately results in inadequate investment on education and thus affects the quality.

Prominent Instructional Methods for Distance Education

Distance Education in agriculture characterized by relatively less interactive teaching / learning programmes. The instructional programmes are mainly dominated by Printed Literature, Postal Correspondence, multimedia technologies and cyber technology. Subject matter and instructional programmes are mainly IT based. Obviously, the hand on experience is extremely less. Extensive use and development of programmed printed lessons, programmed audio and video lessons and programme computer aided instructional material is therefore eminent.

Countrywide classroom of UGC and IGNOU on national TV net work has become very effective over last several years. But the time slot is very inadequate and devoid of prime time opportunities. In fact for distance education full time TV channel with 24 hour telecast is necessary. A large network of teleconferencing and internet networking facilities for learners at cooperative / study centres is necessary.

Distance education has to become techno-based and cyber based to cater to large information needs fastly.

SWOT analysis of Distance Agriculture Education in India

Strengths

1. Large number of youth population waiting for higher education.
2. Low cost of the education within reach of rural people and inservice students.
3. Large network of ICAR institutes and SAUs in India to support distance education.
4. Plenty of individual learning opportunities.
5. Expenditure on salaries is less.

Weakness

1. Poor investment by OUs.
2. Practical and Field hand on experiences mostly lacking.
3. Teacher-student interaction is lacking
4. Poor faculty and Human Resource for higher education, mostly dependence on contract services.
5. Poor use of electronic media.

Opportunities

1. Techno and cyber culture abundant (Indira, 2002).
2. Opportunity to enroll youth who are not absorbed in conventional Agril. Education system.
3. Government support hence possibility of getting adequate funds.
4. Several new curricular on the backdrop of globalization.
5. Internet and multimedia networking opportunities.
6. High accessibility.

Threats

1. Establishment of non-grant agricultural school and colleges
2. NGOs taking over agricultural education
3. Large number of dropouts

The threats are to be converted into the opportunities by entering into the collaborative Distance Education programmes with such institutes.

Summary

Distance education is very effective, accessible, low cost educational opportunity for those, out of conventional educational system. However, to be effective in agriculture more practical field based approach is needed. Higher education leading to Ph.D. needs to be more responsibly managed.

There are several micro and macro issues before distance education system in general and agriculture in particular in India. Dependence on conventional system, lack of need based training to faculty, service guarantee for academics lacking, lack of adequate and qualified human resources, inadequate funds, doubts about quality of instructional programmes, poor incentives to hired faculty, poor interaction with students and quality of guidance and high dropout rate.

Hence to overcome these disabilities and strengthen distance education system in India, it is necessary to strengthen dual mode of distance education and increase government funding in future. We have to remember and ensure that OUs should not become degree distributing institutes but help beneficiaries to stand on their own feet. There are several vocational courses in agriculture sector which can be brought under distance education in future and that all other OUs out of Maharashtra State can also take care of agricultural education leading to vocational courses in a right perspective.

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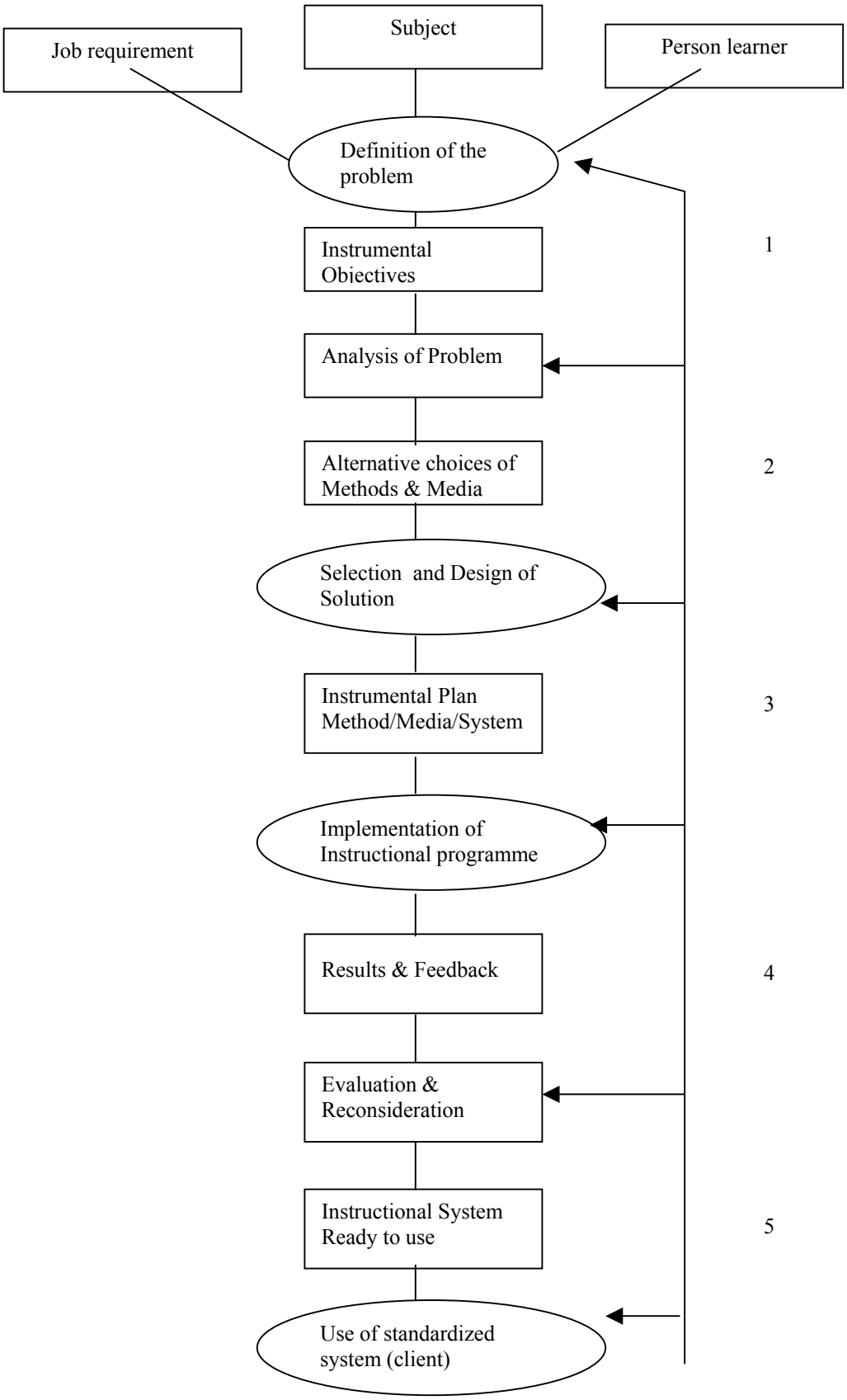

Fig. 1. Flow chart of the DE System (Courtesy YCMOU)

Table 1 : Details about OU's in India as on January 2002

Sr. No.	Particulars	IGNOU, New Delhi	OU BRAOU Hyderabad	KOU Kota	NOU, Patna	YCMOU Nasik	MPBOU Bhopal	BAOU AHMEDABAD	KSOU Mysore	NSOU Kolkata	UPATOU Allahabad	Total
1	Educational Programmes an offer	60	23	22	8	60	30	11	29	03	41	288
2	Courses	640	307	195	9	236	49	96	244	18	126	1920
3	Students registered	287366	106748	8980	1221	113500	55360	8575	32658	2798	1089	618295
4	Total students on roll	646651	450000	13000	1644	486651	108549	33892	40690	2798	1089	1784964
5	Regional Centres	44	21	6	-	10	9	2	4	-	-	96
6	Study Centres	624	137	40	5	1451	667	61	52	36	38	3111
7	Academic Counsellors	20364	4837	541	28	4521	3200	776	5812	733	214	38026
8	Degrees & Diploma Conferred	53298	3030	-	404	44554	9343	1403	5065	-	-	117097
9	Audio Instrumental programmes	1100	1759	7	-	298	5	10	285	4	-	3468
10	Video Instrumental Programmes	1050	298	1	-	189	18	-	132	-	2	1690
11	Staff **- Academic**	295	98	25	1	60	36	39	66	10	1	631
	- Administrative	856	340	294	23	173	33 including Technical	46 including Technical	255	41	26	2396 including Technical
	Total	1389	473	324	25	263	69	85	321	51	27	3027