PART II

ANALYSIS AND INTERPRETATION

- Home Science in Higher Education
- Factors of Acceleration and Inhibition
- The Programmes and the Profession
- The Resources

CHAPTER FIVE

HOME SCIENCE IN HIGHER EDUCATION

CHAPTER V

HOME SCIENCE IN HIGHER EDUCATION

5.1 Introduction

During the early twentieth century, the teaching of Home Science was a debatable issue, still, in the last forty years or so this has been widely accepted and has spread at all levels of education. The attempts for introducing the subject for higher education materialized with its introduction as diploma, electives and full fledged programmes which finally resulted into offering a degree course in 1942. It expanded all over the country in different types of institutions.

At the time of data collection, Home Science programmes leading to the Bachelor's degree was available in fourteen states in India. These were Tamil Nadu (Madras), Uttar Pradesh, Delhi, Gujarat, Madhya Pradesh, Bengal, Maharashtra, Kerala, Karnataka (Mysore), Andhra Pradesh, Punjab, Jammu and

Kashmir, Rajasthan and Haryana. These states are arranged here in a chronological order according to the date of establishment of the programme in that state. The Masters degree programmes were also available in all the states in one area of specialization or the other except Jammu and Kashmir, Rajasthan and Haryana.

5.2 The Institutions

There were 36 universities with 73 institutions (Appendix 4). Out of these 62 institutions of 32 universities responded (Appendix 9). These institutions developed the degree programmes over a period of about fortyone years and differed in their period of growth, teaching arrangement, management, examination system and levels of programmes. For a better understanding of the development of these programmes in the different types of institutions, these institutions are arranged chronologically (vide Chapter V 5.3), on the basis of the establishment of the degree programmes from 1942 to 1974. They were then grouped on the basis of the teaching arrangement made for the teaching of the various sciences and humanities from which the discipline draws it principles.

5.2.1 Types of Institutions

The institutions were differentiated on the basis of teaching arrangement. All the institutions which offered

the degree programmes, also taught sciences and humanities as an integral part of the programme. This could be done in two ways ; (i) to make the organisational arrangement of implementing the programme in the institutions independently, (ii) to have programmes through the cooperation of sister disciplines in the sister institutions at programme implementation and goal achievement level. If there were different departments for the sister disciplines with the institutions the independence remained within the institutions.

To find out this arrangement, two statements 'teaching of all the subjects in the college' and 'the different subjects to be taught by other departments/colleges/ faculties' were provided. As it was known that in certain institutions help was sought for research, a third statement 'whether help was sought in research work' was also provided.

Those who responded to statement number 1 or 1 and 3 were included in type one; those who responded to statement number 2 or 2 and 3 were included in type two; and those who responded to both the statements 1 and 2 and/or 3 were placed in type three (Table 1). Out of 62 institutions, six responded to statement 1, 'teaching of all subjects in the college' and four to both 1 and 3, 'teaching of all subjects in the college' and 'assistance sought in research

Table 1 : Categorisation of institutions on the basis of teaching arrangement

S.No.	Teaching Arrangement	Types of Institutions			Total
		I	D	E	
1.	Teaching of all subjects in the college	6	-	-	9.7
2.	Different disciplines taught by other departments/colleges	-	4	-	6.4
3.	Assistance sought in research work	-	-	-	
4.	Teaching of all subjects in college and assistance in research work	4	-	-	6.4
5.	Different disciplines taught by other departments/colleges and assistance sought in research work	-	6	-	9.7
6.	Teaching of all subjects in the college and the different disciplines taught by other departments.	-	-	37	59.7
7.	Teaching of all subjects in the College and the different disciplines being taught by other departments and assistance sought in research work	-	-	5	8.1
	Total (%)	16.1	16.1	67.8	100.0

work'. These totalled to ten and were placed in type one. Four institutions responded to statement number 2, "the different subjects taught by other departments/colleges/ faculties' and six responded to statement number 2 and 3, 'the different subjects taught by other departments/college/ faculty' and 'assistance sought in research work'. These also totalled ten and were placed in type two. Those who responded to both the statement 1 and 2, 'teaching of all subjects in the college' and also to 'the different subjects taught by other departments/colleges/faculties' were 37. Five responded to the third statement also 'assistance in research work'. Thus, the total number of institutions in this type aggregated to 42.

These institutions on the basis of their teaching arrangegement were classified as Independent (I), Dependent (D) and Existent (E) types. The type one institutions were independent of the teaching of all subjects; the second type of institutions were Dependent to the teaching of other subjects by other departments/faculties/colleges; and the third type of institutions were Existent where arrangement for teaching all subjects were available in the college with other departments. The number of institutions in each type were 10, 10, and 42 or 16, 16, and 68 per cent of the total programme respectively.

The first institution of the 'I' type which was established in 1932 with a diploma programme was the Lady

Irwin College, New Delhi. The first in the 'D' type was the Faculty of Home Science, of the M.S. University of Baroda, Baroda. The first two in the 'E' type were Women's Christian College and Queen Mary's College, Madras; where the resources of the micro-organisation were utilized in comparison to the Faculty of Home Science, Baroda, where the resources of the macro-organisation was utilized. The Women's Christian College and Queen Mary's College, Madras developed the first degree programme in India cooperatively in 1942 by establishing the department of Home Science individually. However, these colleges were in existence long before.

When the institutions were grouped according to the above mentioned criteria it was seen that certain states had one particular type of institution and the others of different type e.g. Tamil Nadu, Madhya Pradesh, Karnataka and Andhra Pradesh had only 'E' type of institutions except two in Andhra Pradesh which were of 'D' type. These were the College of Home Science of the Andhra Pradesh Agricultural University and the Department of Home Science of Sri Venkateswara University, Tirupati (Table 2). In Uttar Pradesh, Delhi, Gujarat, Punjab, Rajasthan and Haryana the institutions were either of the 'I' or the 'D' type. In Bengal, there were two institutions: one of

Table 2 : Statewise position of the different types of institutions

Sr. No.	States	Types of Institutions			Total
		I	D	E	
	N =	10	10	42	62
1.	Tamil Nadu	-	-	16.7	11.3
2.	Uttar Pradesh	20.0	20.0	-	6.5
3.	Delhi	20.0	-	-	3.2
4.	Gujarat	-	20.0	-	3.2
5.	Madhya Pradesh	10.0	-	28.6	21.0
6.	Bengal	-	-	2.4	1.6
7.	Maharashtra	30.0	10.0	4.8	9.7
8.	Kerala	-	-	23.8	16.1
9.	Karnataka	10.0	-	11.9	9.7
10.	Andhra Pradesh	-	20.0	11.9	11.3
11.	Punjab	10.0	10.0	-	3.2
12.	Haryana	-	10.0	-	1.6
13.	Rajasthan	-	10.0	-	1.6
	Total	16.1	16.1	67.8	100.00

I = Independent
D = Dependent
E = Existent

the 'E' type and the other of the 'I' type. As the 'I' type of institution did not respond in this study, only the 'E' type was represented. Maharashtra alone had all the three types of institutions.

The clustering of the states with one type of institution or the other could be explained as follows: When a particular type of institution is begun in one state that type of institution might have given an incentive to the other neighbouring states to begin the same type of institution. To quote an example, when the Lady Irwin College was established in New Delhi and the Faculty of Home Science at the M.S. University, Baroda, the neighbouring states might have followed this pattern. It could also be true of other states, e.g. when the Madras University recognized the programme that was to be initiated at the Women's Christian College and Queen Mary's College at Madras, the neighbouring states followed this pattern. Madhya Pradesh was not effected by the 'I' or the 'D' type, but by the 'E' type. This could be that out of the three types of arrangements, establishment inthe 'E' type was easiest and that could be why Madhya Pradesh though having begun late could establish the maximum number of programmes. The reason given by the Heads of the institutions and the administrators

interviewed was that : Sri L.O. Joshi, the then Education Commissioner, brought Home Science to all the institutions of the states by declaring it to be compulsorily started. All the universities between 1961 and 1974 except Jabalpur which had begun earlier recognized the teaching of Home Science in their respective colleges. The numbers were also higher in other states which had only the 'E' type institutions e.g., Tamil Nadu, Kerala, Karnataka and Andhra Pradesh; whereas it was very low where the 'I' or the 'D' type of institutions existed - Delhi, Gujarat, Uttar Pradesh, Punjab, Haryana and Rajasthan.

As there were different types of arrangement for the teaching and research facilities and many of the institutions had to depend on others, an anticipated change in this situation was expressed by them. This is noticeable in the remarks as to 'get more cooperation from other departments/ colleges', 'be more self sufficient', 'have more coordination from other departments/colleges/faculties' have a change in present arrangement' and 'cannot change this being the pattern of the university'. Out of these five statements, the two statements 'get more cooperation from other departments/colleges/faculties' and 'have more coordination from other departments/colleges/faculties' were agreed to

by the largest number of all the three types of institutions. The percentages being 40, 70; 45 and 40; 70 and 35 respectively. (Table 3).

Table 3 : Changes in the teaching arrangement foreseen by the different types of institutions

Sr. No.	Types of Changes	Types of institutions			Total
		I	D	E	62
		N=10	10	10	
1.	Get more co-operation from other departments/ colleges/faculties	40.0	70.0	45.3	48.9
2.	Be more self sufficient	40.0	30.0	33.3	33.9
3.	Have more coordination from other departments/ colleges/faculties	40.0	70.0	35.7	41.9
4.	Have a change in your present arrangement	-	10.0	9.5	8.1
5.	Cannot change because this being the pattern	10.0	-	11.9	9.7

I = Independent D = Dependent
E = Existent

These changes might have been accepted by all the three types of institutions as they anticipated that by the passing of time and working together the philosophy of the discipline and its dependence on other disciplines would be clearer. The relationship of Home Science and other

disciplines and its clarity would help in more cooperation and coordination with other departments/colleges/faculties.

5.2.2 Management of the Institutions

There were three types of institutions according to their maintenance. They were either maintained by the government, by any non-governmental agency or by the university. Type 'I' and 'D' had all the three categories of the maintenance of the institutions. There was only one institution in type 'E' as a part of the university. The percentages in both the 'I' and the 'D' type of institutions the university maintained institutions were highest - 60 and 80 per cent respectively. In the 'E' type the government maintained institutions were 55 per cent(Table 4) .

A study of the different types of institutions in the different states made it evident that Maharashtra held the highest number of institutions which were university maintained - 50 per cent. In the 'E' type, the highest number maintained by the government were in Madhya Pradesh and the next in Kerala Thus, in the 'I' and the 'D' type the maximum percentage of institutions were university maintained and in the 'E' type the maximum percentage was maintained by the government.

Table 4 : Management pattern in the different types of institutions

Sr. No.	State	U	I	Types of institutions												Total 62
				I = 10				D = 10				E = 42				
				G=2	N=2	P=6	T=10	G=1	N=1	P=8	T=10	G=23	N=19	P=	T=42	
1.	Tamil Nadu	2	7	-	-	-	-	-	-	-	-	2	5	-	16.6	11.3
2.	Uttar Pradesh	3	4	-	-	2	20.0	-	1	1	20.0	-	-	-	-	6.5
3.	Delhi	1	2	-	2	-	20.0	-	-	-	-	-	-	-	-	3.2
4.	Gujarat	2	2	-	-	-	-	1	-	1	20.0	-	-	-	-	3.2
5.	Madhya Pradesh	7	13	1	-	-	10.0	-	-	-	-	11	1	-	28.6	21.0
6.	Bengal	1	1	-	-	-	-	-	-	-	-	-	-	1	2.4	1.6
7.	Maharashtra	3	6	-	-	3	30.0	-	-	1	10.0	-	2	-	4.8	9.7
8.	Kerala	2	10	-	-	-	-	-	-	-	-	7	3	-	23.8	16.1
9.	Karnataka	4	6	-	-	1	10.0	-	-	-	-	1	4	-	11.9	9.7
10.	Andhra Pradesh	3	7	-	-	-	-	-	-	2	20.0	2	3	-	11.9	11.3
11.	Punjab	2	2	1	-	-	10.0	-	-	1	10.0	-	-	-	-	3.2
12.	Rajasthan	1	1	-	-	-	-	-	-	1	10.0	-	-	-	-	1.6
13.	Haryana	1	1	-	-	-	-	-	-	1	10.0	-	-	-	-	1.6
	Total			20.0	20.0	60.0	100.0	10.0	10.0	80.0	100.0	54.8	29.0	1.6	100.0	100.0

U = University
I = Institution
G = Government
N = Nongovernment
P = Part of the University
T = Total

The institutions as part of the university were larger in the 'I' and the 'D' type, may be due to the expansion of Home Science as a subject at different levels of education it received recognition in the universities too. Separate Home Science departments/faculties/colleges were established. The maximum percentage of the 'D' type maintained by the university and an even spread in all the states could be explained because of the establishment of at least one Agricultural University in each state. The maximum percentage of government maintained institutions in Madhya Pradesh could be due to the government's declaration of the discipline to be compulsorily started in all the institutions. The institutions then had no choice but to opt for this.

5.2.3 The Examination System

Among the three types of institutions the annual system of examination was highest in the 'I' and the 'E' type of institutions, i.e., 90 and 100 per cent respectively. In the 'D' type of institutions all the three systems existed - annual, semester and trimester. The percentages being 30, 40 and 30 respectively (Table 5).

The maximum percentage of the 'I' type institutions with an annual system of examination could be due to prevalent system being followed by the universities. This could also be true for the 'E' type institutions. A change

Table 5 : Examination system in the different types of institutions

Sr. No.	State	U	I	Types of institutions												Total 62
				I = 10				D = 10				E = 42				
				A=9	S=1	T=0	Tot.=10	A=3	S=4	T=3	Tot.=10	A=42	S=0	T=0	Tot. 42	
1.	Tamil Nadu	2	7	-	-	-	-	-	-	-	-	7	-	-	16.7	11.3
2.	Uttar Pradesh	3	4	2	-	-	20.0	-	1	1	20.0	-	-	-	-	4.5
3.	Delhi	1	2	1	1	-	20.0	-	-	-	-	-	-	-	-	3.2
4.	Gujarat	2	2	-	-	-	-	-	2	-	20.0	-	-	-	-	6.5
5.	Madhya Pradesh	7	13	1	-	-	10.0	-	-	-	-	12	-	-	28.6	21.0
6.	Bengal	1	1	-	-	-	-	-	-	-	-	1	-	-	2.4	1.6
7.	Maharashtra	3	6	3	-	-	30.0	1	-	-	10.0	2	-	-	4.8	9.7
8.	Kerala	2	10	-	-	-	-	-	-	-	-	10	-	-	23.8	16.1
9.	Karnatak	4	6	1	-	-	10.0	-	-	-	-	5	-	-	11.9	9.7
10.	Andhra Pradesh	3	7	-	-	-	-	1	1	-	20.0	5	-	-	11.9	11.3
11.	Punjab	2	2	1	-	-	10.0	-	-	1	10.0	-	-	-	-	3.2
12.	Rajasthan	1	1	-	-	-	-	1	-	-	10.0	-	-	-	-	1.6
13.	Haryana	1	1	-	-	-	-	-	-	1	10.0	-	-	-	-	1.6
	Total			90.0	10.0	-	100.0	30.0	40.0	30.0	100.0	100.0	-	-	100.0	101.0

U = University I = Institution A = Annual S = Semester T = Trimester Tot. = Total

in the 'D' type could be because in this type the institutions of the Agricultural Universities were also included. These Agricultural Universities had the American influence and thus all the three systems of examination were prevalent.

While finding out the change in the pattern of examination and the reasons for it over a period of time, it was noticed that only 10 per cent in both the 'I' and the 'D' type reported a change. The reasons cited by both the types of institutions were 'better than other system' and 'in the interest of the students' (Table 6). Both the types of the institutions changed to the semester system of examination-in the 'I' type from the annual to the semester

Table 6 : Reasons for changes in the examination system

Sr.No.	Reasons for change	Type			Total
	N =	I=10	D=10	E=42	N=62
	Respondent N =	1	1	-	2
1.	University has changed the pattern	-	-	-	-
2.	It is better than other systems	10.0	10.0	-	3.2
3.	It is in the interest of the students	10.0	10.0	-	3.2
4.	It is convenient for teachers	-	-	-	-

I = Independent D = Dependent

E = Existent

and in the 'D' type from the trimester to the semester. The change from the annual to the semester must have definitely been due to the interest of the administrators for the betterment of the institution and the students. The institutions which changed from trimester to semester system reported that the change was made after an investigation from the teachers and students. They further reported that both the teachers and students found the system 'too hectic for the large number of tests conducted' and the students found it difficult 'to switch quick and fast' from the annual to the trimester system to which they were not used to.

However, when asked for the anticipated changes 12 per cent of the 'E' type expressed that the university might change the pattern being 'dissatisfied with the present system' and if it would change this would be in the 'interest of the students'. It would 'help the teachers to assist the students to create interest in the subject' and 'be independent and self-reliant' (Table 7). The findings demonstrated that all the institutions which showed a desire for change were from one university only. The findings further clarified that a greater number remained satisfied with the prevalent system of examination.

Table 7 : Anticipated changes in the examination system

Sr. No.	Reasons for change	Types of institutions			Total
		I	D	E	62
	Respondents N =	10	10	42	
	Respondents N =	-	-	5	
1.	The university may change its system	-	-	12.0	8.1
2.	Dissatisfied with the present system	-	-	12.0	8.1
3.	In the interest of the students	-	-	12.0	8.1
4.	Convenient for teachers	-	-	12.0	8.1
5.	Help students create interest in the subject	-	-	12.0	8.1
6.	Students will be independent and self relient	-	-	12.0	8.1

I = Independent D = Dependent E = Existent

All the institutions accepting a change from one university could be due to the dissatisfaction of the administrators and the authorities with the existing system. Thus, there could be planning for a change in the system of examination from the above. The satisfaction of a greater number with the prevalent system could imply their satisfaction with the annual system of examination due to their being accustomed to it.

5.2.4 Levels of Education

Amongst the three types of institutions, the maximum percentage of the post-graduate institutions were

in the 'I' and the lowest in the 'E' type. The percentages were, 60 and 33 respectively (Table 8). In comparison to the 'I' type the percentage of post-graduate institutions was much less in the 'D' type. In the 'I' type of institutions the post-graduate programme existed in five states, the maximum being in Maharashtra. Amongst the 'E' type the maximum percentage of post-graduate institutions were in Madhya Pradesh. Except Rajasthan and Haryana all the states represented in the study had post-graduate programmes.

The maximum percentage of the 'I' type of institutions could have been able to start the post-graduate programme because this type of institutions were specially set up for the innovation they stand for. It also could be possible that this category of institutions had more institutions as part of the university. If any institution forms the part of an university, it would imply that the institution was expected to develop the post-graduate and research programmes. Although the 'D' type of institutions had less post-graduate programmes, this does not conclude that they differed in the philosophy with that of the 'I' type. However, the number of institutions with higher programmes could be few, because this type developed later

Table 8 : The levels of programmes in the different types of institutions

Sr. No.	State	U	I	Types of institutions U=4	P=6	Total 10	U=6	P=4	Total 10	U=28	P=14	Total 42	Total 62
1.	Tamil Nadu	2	7	-	-	-	-	-	-	3	4	16.7	11.3
2.	Uttar Pradesh	3	4	1	1	20.0	2	-	20.0	-	-	-	6.5
3.	Delhi	1	2	1	1	20.0	-	-	-	-	-	-	3.2
4.	Gujarat	2	2	-	-	-	1	1	20.0	-	-	-	3.2
5.	Madhya Pradesh	7	13	1	-	10.0	-	-	-	7	5	28.6	21.0
6.	Bengal	1	1	-	-	-	-	-	-	-	1	2.4	1.6
7.	Maharashtra	3	6	1	2	30.0	-	1	10.0	2	-	4.8	9.7
8.	Kerala	2	10	-	-	-	-	-	-	7	3	23.8	16.1
9.	Karnatak	4	6	-	1	10.0	-	-	-	4	1	11.9	9.7
10.	Andhra Pradesh	3	7	-	-	-	1	1	20.0	5	-	11.9	11.3
11.	Punjab	2	2	-	1	10.0	-	1	10.0	-	-	-	3.2
12.	Rajasthan	1	1	-	-	-	1	-	-	-	-	-	1.6
13.	Haryana	1	1	-	-	-	1	-	-	-	-	-	1.6
	Total	32	62	40.0	60.0	100.0	60.0	40.0	100.0	66.7	33.3	100.0	100.0

U = University I = Institution U = Undergraduate P = Post-graduate

and some of them not have even reached the final year of the B.Sc. programme. Moreover, the type of teaching arrangement with which this type of institution is managed had better chances of developing higher programmes. This would not have been so with the 'E' type as all the institutions except one, had only a department of Home Science. In this situation the post-graduate departments had to be developed on their own resources. Those institutions which developed either had enough resources or were operating with a handicap.

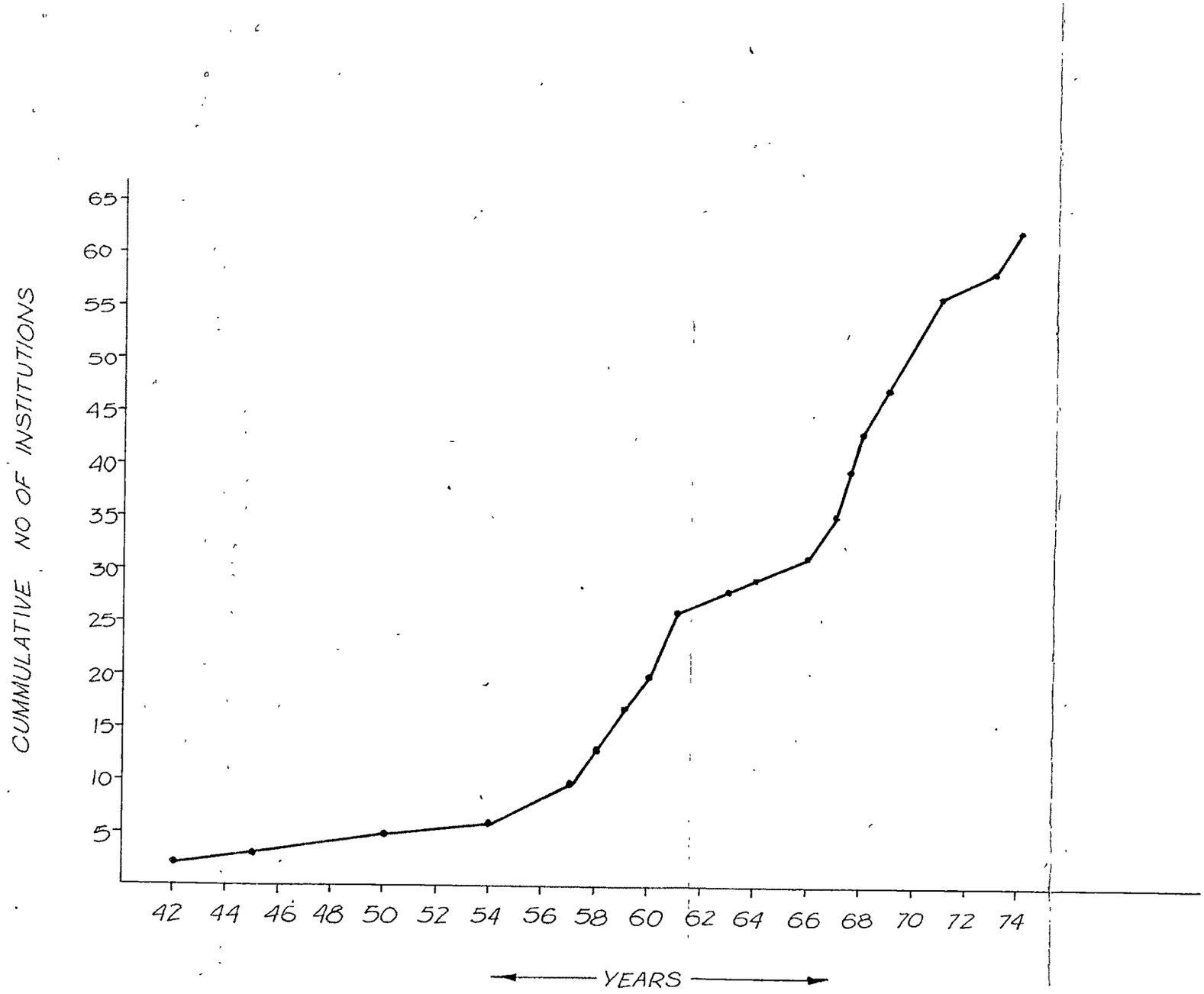
5.3 Development of Programmes

The Home Science education arrived comparatively late on the scene of Indian education at the higher levels. However, after being introduced it developed rapidly. It came in the lime light after the attempts for their purpose were made by the various educationists interested in women's education.

Before analysing the development of the programme in India through a time span the total period is divided into shorter ones to obtain a logical relationship between the development of the programmes and the types of institutions. If the development of the Home Science degree programmes between 1942-74 be placed chronologically it is

observed that until 1964 the development was sporadic and sudden. Each new programme came up after a lapse of three to five years. No programme developed between the years 1955-56, after four new programmes which came up all of a sudden in 1954. After 1956, the programmes continuously developed. The duration of the gap between the new programmes was also shorter. It was one or two programmes after three to five years. From 1957 onwards there were three to four programmes every year. Therefore, the years 1955 and 1956 were taken as the years which changed the gap for development of new programmes as well as the number of programmes developed. From 1957 to 1961 the new programmes came up continuously in different states. Suddenly, this trend changed. There were no new programmes in 1962. During 1963 and 1964 it was two and one respectively. The number went very low in comparison to the previous years. On the basis of the change in the gap and the change in the trend of growth the period was again divided into two. The whole period from 1942 to 1974 were divided into three periods - 1942 to 1954, 1955 to 1964 and 1965 to 1974. These periods were of 13, 10 and 10 years respectively (Figure 1).

Before discussing the development between the three periods separately a periodwise and institutionwise arrangement of the programmes between 1972-74 would be given


CUMMULATIVE NO OF INSTITUTIONS
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YEARS

to demonstrate the difference of one period from the other. The findings suggest a regular development in all the three types of institutions (Table 9). In the 'I' type of institutions during first and second phase the development was the same, but during the last phase, it was three times the first. In the 'D' type of institutions during the second phase it was three times

Table 9 : Periodwise and institutionwise development of Home Science programmes 1942-74

Sr.No.	Period	Types of institutions			Total
		I	D	E	62
		N = 10	10	42	
1	1942-54	20.0	10.0	7.1	6.7
2	1955-64	20.0	30.0	42.9	37.1
3	1965-74	60.0	60.0	50.0	53.2
	Total	16.1	16.1	67.8	100.0

I = Independent D = Dependent E = Existent

the first. In the 'D' type of institutions during the second phase, it was three times the first and six times in the last. In the 'E' type also the development was nearly seven times than that of the first phase. A study of the development of the total programme during the three periods depicts a continuous growth in all the three types of institutions and during each succeeding period, a far more extensive one.

The basic nature of the development curve is exponential (Table 9-A, Figure 2) which means that the number of

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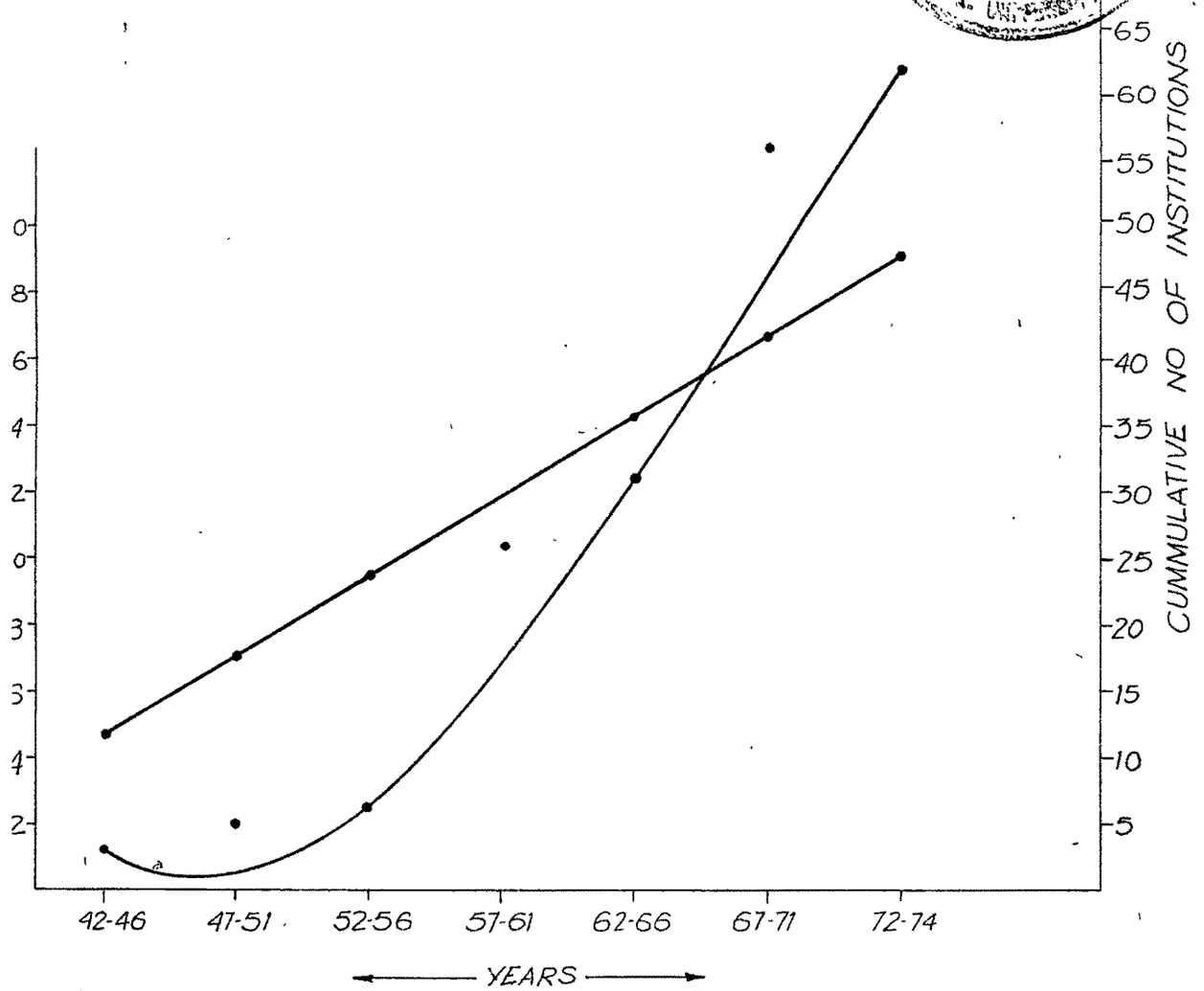

DEVELOPMENT OF HOME SCIENCE PROGRAMMES IN INDIA

institutions went on increasing. This growth rate was found by fitting an equation $y = AB^x$. The growth rate was found to be 74 per cent.

Table 9A : Growth rate of Home Science programmes

Year	No.of Institutions	Cumulative observed values	Estimated value (y)	Log y'
1942-46	3	3	2.99	0.48
1947-51	2	5	5.22	0.70
1952-56	1	6	9.10	0.78
1957-61	20	26	15.86	1.41
1962-66	5	31	27.64	1.49
1967-71	25	56	48.17	1.75
1972-74	6	62	83.97	1.79

Growth rate = 74%

5.3.1 First Phase 1942-54

The first degree programme in Home Science was established jointly by the Women's Christian College and Queen Mary's College at Madras in 1942 and was recognized by the Madras University. This beginning was not sudden. Various attempts were made by those interested in this discipline much earlier. An interest for the inclusion of the subject in the Madras University was strongly supported by the training colleges especially by Miss J.M.Gerrad, the then Principal of the Lady Wellington Training College of Madras. In 1934, Miss P.C. Annamma first introduced a resolution in the Academic Council pressing for the consideration of Home Science. This resolution

was lost in the debate. Later on, the Director of Public Instruction, Mr.Govindrajulu Naidu saved the caused of Home Science by insisting that the resolution be referred to the syndicate. The years 1934-38 were the years when after many discussions and consideration the syllabi were finally approved. These were the years of discussions. The B.Sc. syllabus was first approved by the Academic Council in September 1938. The developmant of the Home Science programme had the vigorous support and encouragement of the then Vice-Chancellor, Dr.Lakshmana Swami Mudaliar. The syllabus was passed, still it couldnnot take a shape, until 1942 due to lack of finance. As this was the first time a degree programme was initiated, both the institutions started the programme jointly. Women's Christian College took the responsibility of teaching Nutrition and the Queen Mary's College the Applied Physical Sciences. The other subjects were taught separately at the two colleges. It was only in 1950 that the two colleges started the courses separately.

A need to develop the degree programmes in Home Science was expressed by the then head to meet the requirement of the qualified teachers. The development of the programme at the various levels of education and the dearth of qualified staff was obviously felt. In the history of Home Science education 1942 is the most important year, as this gave an

impetus to the degree programmes at other institutions as well.

Between the years 1942 to 1954, within a period of twelve years, six degree programmes were introduced (Table 10). Besides these two institutions, Allahabad University set up a department of Home Science. This was for the first time that a department was established in an University. This step was taken by Dr. Sri Ranjan the then Vice-Chancellor of the Allahabad University which established the fact that the discipline was required at the higher level of education for research and the enrichment of the subject matter.

Soon after, the department of Domestic Science was established at the Calcutta University by Miss Jyoti Prova Dasgupta in 1945 with a Diploma Programme. This department was named after its donor Rai Bahadur Vihari Lal Mitra, who, in 1935, had donated to the University of Calcutta all his property for women's education. This property could fetch a revenue of Rs. 48,000/- a year. He was a man who firmly believed that women's education in Bengal could make great contributions. It could contribute to the cause of education as a whole and to their own development in specific direction. This would ultimately lead to the advancement of the nation. Therefore, in 1937

Table 10 : Development of Home Science from 1942 to 1954

Sr.No.	State	University	Name of the Institution	Town	Year of starting
1	Tamil Nadu	Madras	Queen Mary's College	Madras	1942
2	Tamil Nadu	Madras	Women's Christian College	Madras	1942
3	Uttar Pradesh	Allahabad	Home Science Department	Allahabad	1945
4	Delhi	Delhi	Lady Irwin College, [illegible]	Delhi	1950
5	Gujarat	Maharaja Sayajirao	Faculty of Home Science	Baroda	1950
6	Madhya Pradesh	Jabalpur	Mohanlal Hargovind Das Mahila Grihvigyan Mahavidyalaya	Jabalpur	1954

the University of Calcutta created a fellowship from that endowment and appointed Smt. Jyoti Prova Dasgupta to submit a report on the importance and on the different aspects of Home Science. The report was submitted to the university and published in 1938. In 1944, by the initiative of Dr.Shyama Prasad Mookerjee, the then Vice-Chancellor, the institute was organized to impart training and knowledge to the women teachers for teaching Domestic Science.

From the point of view of the degree programmes no development took place between 1945 and 1950. It was only in 1950 that the newly created M.S. University of Baroda, established the Faculty of Home Science on the initiative and far sightedness of Smt. Hansa Mehta who had taken over as the first Vice-Chancellor in 1949. She had visited Cornell University, U.S.A. in 1923, and was greatly impressed with the type of education that was being imparted to women in the field of Home Economics. When she took over as the Vice-Chancellor of the M.S. University, she established the Faculty of Home Science on the same lines. This could easily be said to be a memorable step in the development of Home Science education at the higher level. No such institution existed till then in India, although the Allahabad University had established a department. However, it could not come up to the level it should have, due to the government and

administrator's lack of understanding of the discipline in its true sense.

The establishment of a full fledged Faculty at the M.S. University of Baroda, Baroda increased the awareness for Home Science to be recognized as a discipline. In the same year, Lady Irwin College, New Delhi which was established in 1932 began the B.Sc. programme after obtaining the recognition from the University of Delhi. This institution had to discontinue the diploma programme as the university did not permit its continuance.

During the year 1954 when Home Science was being developed at Baroda, Madhya Pradesh established the College of Home Science for women at Jabalpur after receiving a donation of Rupees one Lakh from Messrs Mohan Lal Hargovind Das of Jabalpur. The purpose was to make adequate provision for the training of girls with good qualities of citizenship and a type of education beneficial for them as future housewives and mothers.

The college was started on the lines of Lady Irwin College, New Delhi and the Faculty of Home Science, M. S. University, Baroda. Later on, in 1955, the Mankunwar Bai Mahila Mahavidyalaya, Jabalpur was established after obtaining a donation from Mankunwar Bai, sister of Seth

Hargovind Das as an Arts College. The institution amalgamated with the Mohan Lal Hargovind Das College of Home Science of Habalpur as the number of students was much less in the Arts College. Since then, the institution had a common building and administration. This merger helped the institutions in utilizing their resources in a better manner. The specific philosophy and the donation with which the college had begun, still holds good as the institution was counted as a pioneer institution in the development of Home Science programmes in Madhya Pradesh.

During this period, the Hlme Science programme also took a beginning in the State of Karnataka. In 1950, Seth Hargovind Das Dhanoomal, a Sindhi philanthropist offered a lakh of rupees to the government of Mysore to establish an institute of Domestic Science in Bangalore in the name of the donor's wife Smt. Vishindevi Harbhagwandas Dhanoomal. The offer was accepted by the Government of Mysore and the money was handed over to the University of Mysore to initiate an institution. As the amount offered was insufficient to immediately begin a separate Home Science College, the University of Mysore started the S.V.H.D. Institute of Home Science. It was attached to the Maharani's College for Women, Bangalore, giving it the status of a department of Maharani's College. In the first year of its development a

separate Home Science College was planned by the university. In 1951 the department of Home Science was established with the aid received from the first and second year plans.

Thus, during this period of 13 years, six degree programmes were established in the three types of institutions. These were : Queen Mary's College and Women's Christian College, Madras; Home Science Department of Allahabad University; Faculty of Home Science, Baroda; M.L.H.D. Mahila Grih Vigyan Mahavidyalaya, Jabalpur. The percentage was highest in the 'E' type and lowest in the 'D' type being 50 and 17 respectively (Table 11).

Table 11 : Development of Home Science programmes in the different types of institutions -1942-54

Sr.No.	State	Types of Institutions			Total
		I	D	E	
	N=	2	1	3	6
1	Tamil Nadu	-	-	2	33.3
2	Uttar Pradesh	1	-	-	16.7
3	Delhi	1	-	-	16.7
4	Gujarat	-	1	-	16.7
5	Madhya Pradesh	-	-	1	16.7
	Total	33.3	16.7	50.0	100.0

The findings indicated that during the first phase of the development all the three types of institutions were established. The percentages ranged from 17 to 50 in the total number of programme developed.

5.3.2 Second Phase - 1955-64

During the period 1955-64 the increase in the number of programmes was phenomenal in comparison to previous period (Table 12). In 1957 four degree programmes were introduced in Tamil Nadu and West Bengal. The Sri Avinashilingam College of Home Science, Coimbatore, Tamil Nadu, was established by Sri T.S. Avinashilingam at Chettiar in 1957. The Vihari Lal College of Home and Social Science was established in 1944 by the then Vice-Chancellor, Dr. Shyama Prasad Mookerjee, developed into a full fledged College of Home and Social Science and started the degree programme. This was the first degree programme established in West Bengal. In Maharashtra, the Nirmala Niketan College of Home Science, Bombay began the diploma programme.

The Madras University, during this period, besides Sri Avinashilingam College of Home Science, recognized the degree programme of the S.I.E.T. Women's College, Madras in 1957 and Seetha Laxmi College, Trichirapalli in 1961. In the same state, Madurai University recognized Fatima College for the B.Sc. Home Science in 1960. This raised the total number of degree

Table 12 : Development of Home Science Programmes .. 1955 - 1964

Sr.No.	State	University	Institution	Town	Year of starting
1	Tamil Nadu	Madras	Sri Avinashilingam College of Home Science	Coimbatore	1957
2	Bengal	Calcutta	Vihari Lal College of Home and Social Science	Calcutta	1957
3	Tamil Nadu	Madras	Southern Indian Educational Trust Women's College	Madras	1957
4	Maharashtra	Nagpur	Lady Amrit Bai Daga College	Nagpur	1957
5	Kerala	Kerala	Sri Narayan College for Women	Quilon	1958
6	"	"	St. Theresas College	Ernakulam	1958
7	"	"	Government College for Women	Trivendrum	1958
8	"	"	N.S.S. College for Women	"	1959
9	"	"	Church Mission Society College	Kottayam	1959
10	Maharashtra	Sri Nathi Bai Damodar Das Thakersey Women's University	Sir Vithaldas Thakersey College of Home Science	Bombay	1959
11	Karnataka	Mysore	Maharani's College	Mysore	1959
12	Kerala	Kerala	Assumption College	Changuacherry	1960

(continued)

(Table 12 continued)

Sr.No.	State	University	Institution	Town	Year of starting
13	Uttar Pradesh	Allahabad	Department of Home Science (Allahabad Agricultural Institute)	Allahabad	1960
14	Tamil Nadu	Madurai	Fatima College	Madurai	1960
15	Andhra Pradesh	Andhra	Government College for Women	Guntur	1961
16	Punjab	Punjab	Government College for Women	Chandigarh	1961
17	Madhya Pradesh	Saugar	Government Home Science College	Hoshangabad	1961
18	Tamil Nadu	Madras	Seethalaxmi Rama Swami College	Trichirapalli	1961
19	Andhra Pradesh	Sri Venkateswar	Sri Padmawati Women's College	Tirupati	1961
20	"	Andhra Pradesh Agricultural University	College of Home Science	Hyderabad	1961
21	"	Sri Venkateswara	Department of Home Science Sri Venkateswara University College	Tirupati	1963
22	Karnataka	Bangalore	Mount Carmel College	Bangalore	1963
23	"	"	Vishan Devi Harbhagwan Das Dhanumal Institute	"	1964

programmes in Tamil Nadu during this period to four (Table 12). Lady Amrit Bai Daga College, Nagpur, introduced the programme in 1957 and the S.V.T. College of Home Science, Bombay in 1959. The S.V.T. College is a constituent college of the S.N.D.T. University of Bombay. In 1959, the college was started as an integral part of the Arts College. The separate functioning of the college began in 1966-67.

During this period Kerala University started the first degree programme and within a period of 10 years six institutions were granted recognition. Out of the six, three institutions were recognized in 1958, two in 1959 and the last in 1960.

The other states which introduced the programme for the first time were - Karnataka, Andhra Pradesh and Punjab. In the State of Karnataka, Maharani's College, Mysore was recognized by the Mysore University in 1959. Later on, Mount Carmel College and V.H.D. Institute of Home Science of the Bangalore University started the programme in 1963 and 1964 respectively bringing the programme of the state to three. The V.H.D. Institute of Bangalore was planned and attached as a department in 1951 to Maharani's College, Bangalore and on September 1, 1961 the institute was bifurcated from Maharani's College and named as the V.H.D. Institute of Home Science.

During the year 1960, the Department of Home Science of the Allahabad Agricultural Institute, Naini, Allahabad, began the B.Sc. programme which was recognized by the Allahabad University. The department was established in 1935, but the diploma programme in Home Science extension was begun in 1953. This was the first institution to initiate a degree programme in an Agricultural University. This institute was founded by Mr.Sam Higinbottom. His wife was a woman with social interest and utilized her time with the people around. In the beginning Mrs. Higinbottom helped them with simple medicine and first aid, but later on the same activity took the form of an extension education in the neighbourhood. She took interest in household activities though this was not her field. She realized that the blending of Agriculture and Home Science could improve the life of the people. So the department of Home Science was established with the department of agriculture and many others in the institute.

An important issue in the public mind then, was the introduction of Home Science in agriculture. The administrators realized that the country was predominantly rural and if we desired to help the rural masses it would not be possible to proceed till something was undertaken for their homes. In the home, not only does the mother dwells but the father

and the children as well. It was understood that the agricultural education could not progress on a sound footing unless Home Science is homogeneously mixed with agriculture for the welfare of home and society. Training of girls was as important as training of boys. In Indian culture women's basic occupation was accepted to be the home making, therefore, she only could take care of the home and family according to the individual, social and national need. This was, therefore, the first Home Science institution in an Agricultural University.

The degree programme in Andhra Pradesh started in 1961. The three institutions which came up were : Government College of Home Science, Guntur of the Andhra University; Sri Padmavati Women's College of the Sri Venkateswara University, Tirupati, and the College of Home Science, Hyderabad of the APAU. The Department of Home Science was established at the S.V. University, Tirupati in 1963. This was the first post-graduate department established in the country.

In Punjab, the Government College of Home Science was established in Chandigarh in 1961. In Madhya Pradesh during the same year Government College of Home Science, Hoshangabad came up after being recognized by the Saugar University. The

Government College of Home Science, Chandigarh was established on the lines of the Lady Irwin College, New Delhi. The Government Home Science College, Hoshangabad was the second Home Science degree programme in the state of Madhya Pradesh and the first after 1954. The institution was founded on public demand. Smt. P.Titus reported that until 1960 there was no provision for non-science students to go in for Home Science education. This debarred many students who were interested in pursuing their education in Home Science. Smt. Titus, therefore, formally requested the Saugar University to recognize the Government Home Science College for Women, Hoshangabad for the B.Sc. Home Science programme. The college was then a private institution and its finances were meagre. She, collected all resources to obtain a recognition and began the programme with the help of the local officials and dignitaries. With the progress of women's education and people's interest in Hoshangabad, Dr.K.N.Katju, the then Chief Minister of Madhya Pradesh provided cheap land for the college building. A number of people gave honorary services for 3 years. Thus, there was no difficulty for the institution in obtaining the recognition. In the development of this institution, public demand, public cooperation, sacrifice and initiation was of great assistance.

In 1961 the Institute of Home Economics was established at New Delhi with a Diploma programme. As the Lady Irwin College, New Delhi discontinued the Diploma programme. Mrs.S.Malhan, the Director, interested in Home Science, decided to start the institute. She tapped all her resources to develop the institute. She, realizing that it was a gigantic programme, beyond the capacity of an individual or an association formed a cooperative Home Economics Education Society to secure loan from government. A sum of Rupees six thousand was collected as share money and after organizing a children's fashion show. The land was donated by D.L.F. Lalchand Trust and with the six thousand Rupees the college building was erected. Money for equipment was collected by the Director through her personal efforts. Her friends and relatives also helped in donating the furnitures, and the books etc. The assistance was also received in the planning and construction of the building.

The people's cooperation decreased the need of loan from the government. Hence, the Cooperative Society, which was mainly formed to raise loans was dissolved in less than two months time, and a new society was formed. The new society was named as Home Economics Education Society and was a non-profit making institution. Public demand added to

the progress of the institution. This institution later on built up the degree programme.

Between 1955 and 1964 seventeen Home Science programmes developed in six new states: Bengal, Maharashtra, Kerala, Karnataka, Andhra Pradesh, and Punjab (Table 13).

Table 13 : Development of Home Science programmes in the institutions - 1955 - 64

Sr. No.	State	Types of institutions			Total
		I	D	E	
	N=	2	3	18	23
1	Tamil Nadu	-	-	4	17.4
2	Bengal	-	-	1	4.3
3	Maharashtra	1	-	1	8.7
4	Kerala	-	-	6	26.1
5	Karnataka	-	-	3	13.1
6	Uttar Pradesh	-	1	-	4.3
7	Andhra Pradesh	-	2	2	8.7
8	Punjab	1	-	-	4.3
9	Madhya Pradesh	-	-	1	13.1
	Total	8.7	13.1	78.26	100.0

I = Independent D = Dependent E = Existent

In three states where Home Science programmes were already available further programmes increased. These were the states of Tamil Nadu, Uttar Pradesh and Madhya Pradesh. The universities which introduced Home Science programmes were : Calcutta, Nagpur, Kerala, S.N.D.T., Mysore, Madurai, Andhra Pradesh, Punjab, Saugar, Sri Venkateswara, Andhra Pradesh Agricultural University and Bangalore. The universities of the first phase where the number of programmes increased during this phase were Madras and Allahabad.

The programmes during this period developed in all the three types of institutions. It was most in the 'E' type of institutions and least in the 'I' type. There was sudden rise in the number of programmes in Tamil Nadu and Kerala. The states where the 'I' and the 'D' type of institutions came up, the percentages were very low. This period highlights the establishment of the programme in the Agricultural University (Allahabad Agricultural University and Andhra Pradesh Agricultural University) and post-graduate department in an university for post-graduate teaching and research. These changing trends show the growth of the discipline as well as the changing concept.

The findings set forth that during this period the development of the Home Science programmes is about three

times more than the previous period. This could be the effect of the preceeding period that the programmes once started could be understood. The programmes developed in all the three types of institutions. Development of the programmes at the lower level of education must have demanded qualified teachers for a proper development of the programmes in different states. The contract signed between the universities of Tennessee, U.S.A. and Government of India for the development of Home Science education at the higher level might have also resulted into the development of the programmes. As, through this contract, expertise, equipment and books were provided to the selected institutions. The experts helped in reorganizing the syllabi suited to Indian conditions; in improving teaching techniques; and in organizing workshops, seminars, inservice training and in conducting researches related to Indian situations. This must have resulted in the development of the programmes. The efforts of Home Science Association of India must have also added to the raising of the educational programmes and the standard of education.

The development of the maximum programmes in the 'E' type of institutions could be that most of the programmes started in the states which followed the pattern of having

the 'E' type of institutions. Thus, the number increased in this type of institutions alone.

5.3.3 Third Phase - 1965-74

During the years 1965-74 the programmes developed manifold. It afose from three to four at a time to seven and eight. The new states to introduce the programmes were Rajasthan and Haryana. The period began with the establishment of the college of Home Science in the Agricultural Universities at Udaipur (Rajasthan) and Ludhiana (Punjab). This was a new trend and developed with specific government plans.

Home Science education at the higher level of education was developed in Agricultural Universities as a branch of learning and scholarship for improving rural home living. Wood, 1967 stated, "The general pattern of the organization of Agricultural Universities in India was based on the draft publication entitled Model Act for Agricultural Universities in India. The draft was considered and finalised in a meeting of the Vice-Chancellors of the existing seven Indian Agricultural Universities.

The university was established for the following purposes :

1. Making provision for imparting education in different branches of study, particularly agriculture, horticulture, veterinary and animal sciences, fisheries, forestry, agricultural engineering, home science and other allied branches of learning and scholarship;
2. Furthering the advancement of learning and prosecution of research, particularly in agriculture and allied sciences;
3. Undertaking the extension of such sciences particularly to the rural people of the state; and
4. Such other purposes as the university may from time to time determine.

The Agricultural Universities in India are in a unique position where a serious attempt is being made to give practical shape to the original concept behind the setting up of Agricultural Universities: namely, the development of an institution of higher learning with an integrated and coordinated system of classroom teaching, research and extension education as a means of improving, agricultural production, livestock development, and rural living. "

Thus, Home Science in Agricultural Universities developed the threefold activities of teaching, research and extension education.

Wood 1967 further added, "Typical of the integrated objectives of this university is the very definition of the term 'teacher'. A 'teacher' in the university is one engaged

in teaching, research and/or extension education. There is no compartmentalization of the scientists into teachers, research investigators, and extension workers. While a teacher may be mainly engaged in one of these activities, according to a decision taken by the Academic Council, - he is required to devoted a part of his time and energy (about one-third) to any of the other two activities, wherever the facilities are available."

Home Science Colleges were planned to be established one in each Agricultural University of India. Many institutions were in the growing and a few were established. However, during this period, this being a new trend brought a wide awakening for the importance of the subject.

Most of the institutions which developed the Home Science programmes were additional universities or colleges affiliated to them. These programmes increased in the states where Home Science programmes were already available.

For the sake of convenience and clearer understanding the states will be taken up chronologically and then the institutions of the state which developed the programme will be discussed.

In the State of Karnataka, the Karnataka University introduced degree programme. It recognized Smt. V.G. College,

Gulbarga, in 1967. The Mysore University increased its number by two as Smt. A.V. Kamlamma College, Davangiri was affiliated in 1968; and the Department of Post-graduate Studies and Research was established in 1970 (Table 14). In Maharashtra, Yashwant Arts College, Wardha was recognized by the Nagpur University during 1967. The university also established a post-graduate department of Home Science in 1968. The same year S.N.D.T. Women's University established the S.N.D.T. College of Home Science at Poona. The Bombay University recognized Nirmala Niketan College of Home Science for the degree programmes in 1969. In the State of Kerala, the University of Kerala recognized the B.C.M. College, Kottayam in 1967; Morning Star Home Science College, Angamally in 1968. The Calicut University recognized Nirmalagiri College, Tellicherry in 1967 and Vimala College, Trichur in 1968.

The number of institutions and universities in Madhya Pradesh suddenly increased. By the end of the third period the number of institutions and universities was highest in this state. The University of Indore recognized four institutions of Indore - Post-graduate Degree College in 1968, Kasturba Ruralgram Institute in 1969; Savitri Bhargava Grih Vigyan Kanya Mahavidyalaya in 1971, and New Girls' Degree College in 1974.

Table 14 : Development of Home Science programmes 1965-1974

Sr. No.	State	University	Name of the institution	Town	Year of starting
1.	Rajasthan	Udaipur	College of Home Science	Udaipur	1966
2.	Punjab	Punjab Agricultural University	College of Home Science	Ludhiana	1966
3.	Karnataka	Karnataka	Smt. V.G. College	Gulbarga	1967
4.	Maharashtra	Nagpur	Yashwant Arts College	Wardha	1967
5.	Kerala	Kerala	Bishop Chulaparambil Memorial College	Kottayam	1967
6.	"	Calicut	Nirmalagiri College	Tellicherry	1967
7.	Maharashtra	Nagpur	Postgraduate Dept. of Home Science	Nagpur	1968
8.	Kerala	Calicut	Vimala College	Trichur	1968
9.	"	Kerala	Morning Star Home Science College	Angamally	1968
10.	Madhya Pradesh	Indore	Post-graduate Degree College	Indore	1968
11.	Maharashtra	S.N.D.T. Women's Univ.	S.N.D.T. Home Science College	Poona	1968
12.	Karnataka	Mysore	Smt.A.V. Kamlamma College	Dawangiri	1968
13.	Madhya Pradesh	Ujjain	Government Girl's College	Ujjain	1968
14.	Uttar Pradesh	Agra	Institute of Household Arts and Home Science	Agra	1968
15.	Madhya Pradesh	Saugar	Government Girl's College	Khandwa	1969
16.	Maharashtra	Bombay	Nirmala Niketan College of Home Science	Bombay	1969

(continued)

(Table 14 continued)

Sr.No.	State	University	Name of the institution	Town	Year of starting
17.	Delhi	Delhi	Institute of Home Economics	New Delhi	1969
18.	Madhya Pradesh	Indore	Kasturba Ruralgram Institute	Indore	1969
19.	Union territory of Pondicherry	Madras	Bharti Dasan - Government College for Women	Pondicherry	1970
20.	Karnataka	Mysore	Department of Postgraduate Studies and Research	Mysore	1970
21.	Andhra Pradesh	S.V.University	K.V.R. Government College for Women	Kurnool	1971
22.	Madhya Pradesh	Bhopal	Maharani Maxmibai Girl's College	Bhopal	1971
23.	"	Indore	Savitri Bhargava Grih Vigyan Kanya Maha-Vidyalaya	Anand	1971
24.	Gujarat	Sardar Patel	Home Science College	Anand	1971
25.	Madhya Pradesh	Raipur	Government Girl's Degree College	Raipur	1971
26.	"	"	Government Girl's Degree College	Bilaspur	1971
27.	Uttar Pradesh	Govind Vallabh Pant University of Agriculture & Technology	College of Home Science	Pantnagar	1971
28.	Haryana	Agri. University	Indira Chakarvaty College of Home Science	Hissar	1973
29.	Madhya Pradesh	Bhopal	New Govt. Girl's Degree College	Bhopal	1973
30.	"	Jiwaji	Kamla Raje Girl's College	Gwalior	1974
31.	"	Indore	New Girls Degree College	Indore	1974
32.	Andhra Pradesh	Andhra	Montessorie Mahila Kala Shala	Vijayawada	1974
33.	"	S.V. University	D.K. Government College for Women	Nellore	1974

DegreDuring the year 1968, the Institute of Household Arts and Home Science was established at Agra in Uttar Pradesh. This institute was established with the help of University Grants Commission and the State Government with the single handed efforts of Dr. Sri Ranjan the then Vice-Chancellor of the Agra University. In Uttar Pradesh, until the establishment of this institute there was very little arrangement for the teaching of Home Science. It was, therefore, much in demand from the public. Dr.Sri Ranjan was keenly interested in women's education as well as in the education of Home Science. The establishment of a Department of Home Science in the University of Allahabad in 1945 was his earlier attempt but it did not develop the way he desired. It could be that this was a new step and could not be properly comprehended. He, therefore, as the Vice-Chancellor of the Agra University, tried again and was successful. Later on, in this state the College of Home Science was established at the G.B. Pant Institute of Agricultural Science and Technology, Pantnagar, Nainital in 1971. This was the second institution in an Agricultural University in the State.

In 1970, the Madras University affiliated Bharati Dasan Government College for Women of the union territory of Pondicherry for carrying out the degree programme in Home Science.

In Andhra Pradesh, K.V.R. Government College for Women, Kurnool; and D.K.Government College for Women, Nellore were established in 1971 and 1974 respectively. Both the institutions were recognized by the S.V. University, Tirupati. Besides these two, the Andhra University recognized the programme of the Montessori Mahila Kala Shala, Vijaywada in 1974.

In Gujarat, the College of Home Science, Vallabh Vidyanagar was recognized by the Sardar Patel University, Vallabh Vidyanagar, Anand in 1971. In 1973, Indira Chakarvaty College of Home Science of Haryana Agricultural University was established at Hissar.

It is interesting to see that the maximum number of programmes developed in Madhya Pradesh which is 33 per cent of the total programmes developed. All the programmes in Madhya Pradesh developed in the 'E' type of institutions. Only in Maharashtra, programmes developed in all the three types of the institutions (Table 15). It is also interesting to see that 3 per cent programmes developed in each of the six states - Rajasthan, Punjab, Delhi, Union Territory of Pondicherry, Gujarat and Haryana. During this period also, like the previous two periods, a maximum percentage of programmes developed in the 'E' type of institutions. The

Table 15 : Development of Home Science programmes in the different types of institutions 1965-1974

Sr. No.	State	Types of institutions I	D	E	Total
		N =6	6	21	33
1	Rajasthan	-	1	-	3.0
2	Punjab	-	1	-	3.0
3	Karnataka	1	-	2	9.1
4	Maharashtra	2	1	1	12.1
5	Kerala	-	-	4	12.1
6	Madhya Pradesh	1	-	10	33.3
7	Uttar Pradesh	1	1	-	6.0
8	Delhi	1	-	-	3.0
9	Union territory of Pondicherry (Madras)	-	-	1	3.2
10	Andhra Pradesh	-	-	3	9.1
11	Gujarat	-	1	-	3.0
12	Haryana	-	1	-	3.0
	Total	18.2	18.2	63.6	100.0

percentage of the programmes in the 'I' and the 'D' type of institutions were the same.

By the end of 1964 most of the states had already begun the programmes, thus, there were fewer states to opt for it. The two states which started the new programmes had only

the 'D' type of institution. The development of the 'D' type of institutions could be more because of the establishment of Home Science Colleges in the Agricultural Universities. A sudden rise in the 'I' type could be because by this period the Home Science had acquired a status.

5.4 The Diploma Programme - Present Status

Amongst the 62 institutions, 16 per cent programmes initiated with a diploma programme. From these 15 per cent institutions, 40 per cent were from the 'I' type, 50 per cent from the 'D' type and 10 per cent from the 'E' type (Table 16). After starting the degree programme all the

Table 16 : Reasons of dropping the diploma programmes

Sr.No.	Reasons	Types of Institutions			Total
		I	D	E	62
		N =10	12	42	
	Respondent N =	4	2	1	7
1.	No demand in job	25.0	-	-	
2.	Better programmes started	100.0	100.0	100.0	100.0
3.	Staff size inadequate	-	-	-	-
4.	Programmes in demand started	100.0	100.0	100.0	100.0
5.	Students' number increased	-	-	-	-
6.	Qualified staff's numbers	-	-	-	-
7.	Laboratories inadequate	25.0	-	-	14.3
8.	University does not permit	50.0	-	-	28.6

I = Independent D = Dependent E = Existent

institutions of the 'I' and the 'E' types, and 20 per cent of the 'D' type discontinued the diploma programme. The various reasons putforward for the discontinuation of the diploma programme the basis commonly expressed were 'better programmes started' and 'programmes in demand started'. The least expressed reason was the 'inadequate laboratories'. Thirty per cent also suggested that 'University does not permit'. None of the institutions began the diploma programme dropped out.

The expressed reasons display that once the degree programmes started the demand for an employment could be favourable for a degree and not for a diploma course. The institutions which continued were of the 'D' type and all from the Agricultural Universities. This meant that the diploma programmes taken up in the Agricultural Universities continued. This could be one way of educating the students from the rural areas in a shorter duration by the Agricultural Universities. The educational status of women being very low in rural areas, courses of shorter duration should be more purposeful. Moreover, in the villages due to lack of higher secondary schools the girls would not be having the requisite qualification for admission to the degree programmes. Hence, for imparting the knowledge of Home Science to the rural girls introduction of diploma and certificate courses of

shorter duration could be one good way.

5.5 The Initiation and Establishment of Programmes

An interview of the Pioneer Home Scientists and Educationists disclosed that the development of the discipline did not take place either by evolution or by revolution but it was deliberately induced for which formal organizations were required. The organizations promoted and protected the innovation for which they stood and symbolized it to the society. Such institutions influenced the environment. The findings exhibit that Home Science came into being with the establishment of new organizations which influenced the environment and later on development took place through establishing institutions as well as making use of available micro-organizations. It is seen that certain factors influenced the initiation of the programmes while the others the establishment thereof.

The various factors related to the initiation and establishment of the programmes were studied by interviewing the Pioneer Home Scientists, ex-Heads of the Institutions and other administrators and educationists. They had personal experiences and were eye witnesses for the initiation and establishment of many of these programmes.

The general factors for the initiation of the Home Science programmes viewed that most of the factors were related to the social and cultural situation of the women's education - the home and family life and the role expected by them.The remarks 'girls have different role at home', 'girls interested in household job', 'better cared homes' and 'better trained children' were expressed by all (Table 17). The next highest expressions were 'education not according to social and psychological needs', 'responsible for family climate', 'increasing marriage opportunities' and 'a new discipline'. These were expressed by 89, 77, 62 and 62 per cent respectively.

Table 17 : Reasons for the initiation of Home Science programmes

Sr.No.	Reasons	N = 26
1.	Girls have differentr role at home	100.0
2.	Responsible for family climate	76.9
3.	Girls interested in household job	100.0
4.	Better cared home	100.0
5.	Better trained children	100.0
6.	Education not according to social and psychological needs	88.5
7.	Education to cope up with the scientific and technological advancements	42.3
8.	Education to take up a profession	34.6
9.	Help to take leadership and research activity	30.8
10.	Increasing marriage opportunity	61.5
11.	A new discipline	61.5

Thus, out of 11 factors favoured, 63 per cent, the highest accepted reasonings were related to the home and family life. These findings display that the social and cultural values of our society resulted into the initiation of the Home Science programmes. The initiation of the programme due to its being a new discipline, could be because amongst the people an understanding for the discipline of Arts and Science was more favoured than Home Science. Thus, when the programme was initiated it was thoroughly welcomed being a new discipline. Even the improved social position of women after many decade could have contributed in the initiation of Home Science for higher education. The political awareness, consequences of the World War, national struggle for independence, public awakening, the rising age of marriage changes in joint family life demanded girls trained in the art of managing homes. Thus, the training imparted by mothers and grand-mothers at home which shifted to the formal institutions popularised Home Science. It is interesting to conclude that even at this early stage the foresight of our leaders also assisted in the establishment of Home Science education to meet scientific and technological upheavels which would challenge home life. The families would have to cope up with these fast introducing changes. It was also interesting to observe that the programmes though were mainly initiated for providing education in home and family life, the need for an

education for researches and profession were also not lost sight of. Thirtyfive per cent of the respondents agreed that the discipline was started for the profession and 31 per cent answered that it was begun for developing ability to carry out researches and offer leadership qualities along with a preparation for home making.

After the initiation of Home Science various factors effected the establishment of the programmes in the different types of institutions. These were related to individual personalities, public demands, governmental plans and policies, administrators' understanding and attitude. The factors related to the individual personalities were philosophy of the individual, his interest in the discipline and his keenness of introducing it into the programmes of the women's education; donations by them and their working as leaders for its diffusion. All the institutions of the 'I' type observed one or more than one reason, the largest being the philosophy of the individual personalities. Amongst the 'D' type of institutions government plans were influential. In the 'E' type of institutions there were more of the public demands. The percentages were 70, 60 and 40 respectively (Table 18). The 'I' type of institutions reveal that this type were mainly the outcome of the philosophy of

Table 18 : Factors affecting establishment of Home science programmes

Sr.No.	Factors	Types of Institutions			Total
		I	D	E	
	N =	10	10	42	62
1	Interest of the organisation	10.0	-	-	1.6
2	Philosophy of the personalities	70.0	10.0	21.4	14.2
3	Donations from personalities	30.0	-	7.1	9.7
4	Influence of leaders	50.0	-	21.4	22.6
5	Government plans	-	60.0	-	9.7
6	Government orders	-	-	40.4	27.4
7	Administrator's awareness and interest	10.0	20.0	-	4.8
8	Public demand	20.0	-	64.3	45.2

I = Independent D = Dependent E = Existent

individuals, influence of leaders and donations from the individuals. This being separate institutions must have been able to develop due to these factors otherwise being expensive it would not have materialized. Most of the institutions of the 'D' type being from Agricultural Universities must have expressed the government plans and administrators' awareness. This also meant that the establishment of Home Science in this type was possible

only due to government's help. These were separate institutions and had to depend for the teaching of all other subjects on the sister institutions which was only possible under governmental plans or university pattern. The development of 'E' type of institutions because of public demand must have pressurised the government to agree for the development of the programmes as in the case of Madhya Pradesh where due to public pressure government ordered all the girls' degree colleges to start B.Sc. in Home Science.

5.6 The Objectives

Clearly defined objectives in any educational programme are always purposeful for planning, development, evaluation and further replanning. They become the criteria to develop programmes to accomplish basis for educational purposes. These objectives are self-defined goals for the achievement of the desired end.

The objectives as criteria help in observing the growth of the programmes and other facilities which would help attain the goal. As objectives are self willed, it is evident that these would change from time to time on the basis of changing needs. The changing objectives are signs of growth which help achieve programmes based on needs. Thus, the changes in the objective of the programmes over a time span show the growth based on the needs of the individual and society. In

any society an organization stands for certain needs. These are expressed by the organization in the objectives. In this study the objectives for an institution are analysed from the time, it established to its future plans. Initially these objectives will be considered in conjunction with the purposes of higher education which were : Objectives for personality growth, preparation for future including economic independence and development of interest in the discipline.

5.6.1 Objectives as for Higher Education

The objectives which has been accepted of being established when the programmes began do not have the objectives related to the interest of the discipline. The first three objectives, 'impart terminal education', 'scientific education for home making', and 'preparation for the home making job' were supplementary and complementary to each other. These objectives implied personality growth to meet the job in hand and demands of life; it also implied the preparation for the future.

The next important objective was related to the future preparation for economic independence. It aimed at developing an ability in the teaching profession. No other objective related to economic independence was observed, though, a

scope to do so was offered.

The last and the third category of objective - 'meeting the demands of individuals and families' show that the education aimed at developing an understanding for the individual for their individuality and their family behaviour. These objectives when observed between the years 1973-74 presented a distinct change. The major change was that objectives related to the strength of the Home Science discipline was included, being 'the development of an understanding of the subject through a balanced programme of all those disciplines on which it depends'. Inclusion of this objective could be that over a period of about 40 years, Home Science is now well established. The Home Science being an applied science is based on the other discipline for principles applicable to the various situations of home and family life. It could also be possible that the previous drawbacks are being understood and therefore acceptance for the strengthening of the discipline was felt. After the development of the programme to a certain extent the shortcomings of researches and educational material are being realized and therefore, need for a balanced, strong, discipline is felt.

The next emphasis was on the 'practical training suitable to Indian condition', 'preparation for home making

job' and 'job of economic independence'.

Information drawn from the interviewees revealed that in the beginning years Home Science was influenced by commonwealth countries and later on by the American countries. The authorities must have realized it and therefore may have felt the need of making it suitable for Indian conditions. The objectives related to job were added later may be after realising the potentialities of Home Science that it could prepare for many more jobs than mere teaching.

The objectives envisaged show a greater and wider importance of the discipline through its application in 'developing ability to cope up with the situation'. It also depicted an advancement for specialization and thus qualifying for specific professions. e.g. the objectives from the past to the present and from the present to the future, show their broadening and deepening which are 'coping up with the situation', 'developing interest in specific areas of the discipline for specific jobs' and 'seeing the discipline for the welfare of all'. These objectives are, therefore, analysed over a period of time between different types of institutions so as to determine an understanding of the changing objectives.

5.6.2 Change in Objectives

It is interesting to observe that 50 per cent institutions whose programmes had developed after 1966 till now did not accept their objectives to be different from the time of their establishment. All these programmes developed during the third phase. The reason could be that after 1966 Home Science was better understood and the programmes established thereafter were with a broader and definite objective. Out of these 50 per cent, 19 per cent programmes were in the 'I', 13 per cent in the 'D' and 68 per cent in the 'E' type of institutions. Within the each type 'I', 'D' and 'E' these were 60, 40, 50 per cent of the total programmes in their own type respectively.

5.6.3 Objectives at the Inception

The approbation of the objectives by the institution at the initiation of the programme revealed that 'scientific education for home making' was the most accepted objective (Table 19). (Amongst the different types of institutions this was expressed by 30 per cent of the 'I' type and 36 per cent of the 'E' type. The percentage was only 20 in the 'D' type.

Table 19 : Objectives at the inception of the programmes

Sr.No.	Objectives	Types of institutions			Total
		I	D	E	62
		N=10	10	42	
1	To impart terminal education	10.0	20.0	9.5	11.3
2	Scientific education for home making	30.0	20.0	35.7	32.3
3	Preparation for home making job	20.0	40.0	26.2	27.4
4	Preparation for teaching jobs	20.0	30.0	14.3	17.7
5	Education for meeting the demands of individual and family	30.0	30.0	14.3	19.4

I = Independent D = Dependent E = Existent

Thirtyone institutions started after 1966 did not accord to the difference in the objectives since they started. The total number of institutions which did not agree to the change were 19, 13 and 68 per cent in the 'I', the 'D' and the 'E' type respectively.

In the 'I' type the objective 'education for meeting the demands of individual and family' is also observed by 30 per cent of the respondents. The institutions of the 'D' type responded to the preparation for home making jobs' most. However, the two statements 'scientific education for home making' and 'preparation of home making job' do not appear much different. Both are training for home making. The only

difference is that the former remark when compared to the latter reveals that in the former remark home making is education seen as an activity whereas in the latter it is evaluated for its economic strength. However, both the objectives being related to home making are discussed here together. An acceptance by all the types of institutions for these objectives, show that the programmes were to train girls in the scientific principles of management and care of the home and its members. The education for girls was developing and the society was changing radically through the changes brought in by the technical and technological achievements. It must have been realised that women had to be trained in the managerial art of home making which would be helpful to them ✗ in their lives according to their personal and social necessities based on scientific principles.

It was interesting to see that though the aim of higher education was preparation for economic independence yet it was not observed by a higher percentage of respondents in any type of institution. This could be explained that the issue of economic independence for women was not the philosophy of Indian culture. It could also be that the potentialities of the discipline were not fully propagated.

5.6.4 Change in Objectives

In comparison to the objectives of the past, the present day objectives show a definite change in the trend of acceptance of objectives. The highest accepted objectives of the group as a whole was 'preparation for higher training' and 'preparation for job of economic independence' (Table20). The same two objectives are accepted most by each of the groups - the 'I', the 'D' and the 'E' individually.

Table 20 : An accordance to the present objectives

Sr. No.	Objectives	Types of institutions			Total
		I	D	E	
		N=10	10	42	62
1	Strong undergraduate programme	60.0	60.0	64.3	62.9
2	Balance of various discipline	70.0	70.0	47.6	54,8
3	Practical oriented training according to Indian conditions	60.0	80.0	66.7	67.7
4	Preparation for higher training	80.0	80.0	78.6	79.0
5	Preparation for home making job	50.0	50.0	78.6	69.4
6	Preparation for job of economic independence	80.0	80.0	76.2	77.4
7	Develop interest in research	30.0	60.0	38.1	40.3
8	Develop attitude of welfare for society through individual	70.0	60.0	42.9	48.4
9	Develop the personality to the fullest	70.0	80.0	61.9	66.1

I = Independent D = Dependent E = Existent

The percentages for the two objectives in the three types of institutions were 80, 80, 79 and 80, 80, 76 respectively. Besides these two objectives of highef training and job of economic independence, 80 per cent in the 'D' type institutions observed 'practical oriented training according to Indian conditions' and 'develop the personality to the fullest'. Seventy nine per cent of the 'E' type of institutions accepted preparation for home making job. Thus, over a period of time there was a total change in the acceptance of the objectives. During the past, agreement was more for the 'home making job' which is now changed to 'higher training' and 'job of economic indepedence'. This could be viewed as the result of the development of the programme and acceptance of the job potentialities of the discipline. It could also be inferred that with the changing times the agreement of the same percentage in the 'D' type for 'practical oriented training' and 'develop personality to the fullest' could be due to the most institutions being in the Agricultural Universities. These universities aim at rural development. Acceptance of a higher percentage of the 'E' type for 'preparation for home making job' could be because most of them having only undergraduate programmes. It was interesting to note here that the same percentage observed objectives related to 'higher training' and 'job for economic independence'.

Amongst the other objectives 'interest in research work' is one of the very important objective of higher education. It was observed by a lower percentage in the 'I' and the 'E' type of institutions. Looking at the organisational structure of these types of institutions, it could be said that the 'I' type of institutions had to depend for all educational facilities of all programmes on their own resources, therefore, developing interest in research work might have been hampered. The 'E' type of institutions also being in a micro-organization could not have been able to develop interest in research work. Thus lack of facilities or help from other disciplines might have effected the institution in the observation of this objective.

It is further interesting to note that the objective 'develop attitude of welfare for society through individual was agreed to by a higher percentage in all the three types of institutions. This discloses that it was recognized that for the welfare of the society the individual would have to develop a different attitude.

5.6.5 Future Objectives

The analyses presented that all the three types of institutions could not view the future objectives. These institutions differed in their priorities for objectives. The 'I' type consented to the objectives 'develop interest in specific field' and 'ability to qualify for specific jobs', whereas the 'D' and the 'E' type of institutions approbated

objectives 'to fulfill the needs of individual and society. (Table 21). This meant that these institutions emphasised

Table 21 : Objectives foreseen for the future

Sr.No.	Objectives	Types of institutions			Total
		I	D	E	
	N=	10	10	42	62
1.	Help people develop ability to cope up with the situation	50.0	50.0	42.3	45.2
2.	Develop interest in specific field	70.0	50.0	47.6	51.6
3.	Ability to qualify for specific jobs	80.0	50.0	38.1	46.8
4.	Fulfill needs of individual and society	60.0	60.0	66.7	64.5
5.	Home Science for all people at all levels	60.0	40.0	54.8	53.2

extension education programmes, The 'D' type of institutions might have correctly visualised these objectives as most of the institutions in this type are of Agricultural Universities where extension education is one of the three activities - teaching, research and extension education. The 'E' type of institutions must also be planning to offer greater importance to extension education.The 'I' type of institutions might be expecting a development in specialization and making their programmes job oriented, they being the pioneers for the specific innovation.

5.7 Conclusion

The data for the development of Home Science education at the higher level revealed that the Home Science programmes were developed in the different types of institutions. They differed in their original structure for the teaching of other sciences and humanities from which Home Science draws its principles. It also unfolded the fact that after the beginning of the Home Science degree programmes in 1942 it went on increasing. With the passing of time the programmes achieved greater importance. During the year 1963 the S.V. University, Tirupati established post-graduate department for carrying out the post-graduate teaching and research. Later on from 1966 Home Science colleges were developed in Agricultural Universities, though a beginning of Home Science with Agriculture was made so in 1935 when the Home Science Department was established in the Agricultural Institute, Allahabad. This institute also began a degree programme in 1960 in an agricultural setting earlier than Agricultural Universities. It was also observed that the institutions earlier than 1966 only accorded to a change in their objectives from the time they began their programme to now. The changing objectives and the objectives foreseen presented a clarity and broadening of the concepts over a period of time.
