



**SWP 16/89 AN EXPLORATORY EXAMINATION OF THE
EXTENT TO WHICH RURAL INSTITUTIONS
PROMOTE ENTREPRENEURSHIP SKILLS
AMONG THEIR STUDENTS**

**DR SHAI VYAKARNAM and PETER
Cranfield School of Management
Cranfield University
Cranfield
Bedford MK43 0AL
United Kingdom**

**Tel: +44 (0)1234 751122
Fax: +44 (0)1234 781806**

Acknowledgements:

Sue Birley

Of Cranfield School of Management, for the use of questions from another survey
underway on Academic Entrepreneurs.

Aim

To examine small business teaching in UK Colleges of Agriculture, Horticulture and Forestry in addition to Colleges of Further Education that teach the above subjects.

Foreword

The rate at which Small Businesses are created, succeed or fail depends on a complex matrix of interrelated factors. It is not the purpose of this study to examine these in any detail or to debate their relative significance, however, the number and skill level of potential entrepreneurs is thought to be an important factor in economic development. (McClelland 1967). Rural technology colleges have perhaps the greatest opportunity to influence the development of these skills in rural areas since they provide training to representatives of most social and economic groups within rural communities. One of the most important aspects of this training is that, for the most part, it is free and therefore is readily accessible. Further these rural technology colleges are widely distributed within the UK (Appendix 1) and, it is suggested, lecturers have considerable access to existing rural small businesses through contacts.

It is not claimed that entrepreneurs can be created. However the notion of starting a small business can be presented as a positive alternative to poorly paid agricultural jobs, migration to urban areas or unemployment. Instruction in the concepts of starting and running a Small Business can be added to business management skills that are taught formally. Examination of possible Start-Up ideas, visits to existing small businesses, business games and student ventures could be used, where appropriate, to give Small Business a high profile and give students ideas and the confidence to implement them.

Introduction

In order to give the study a context, a brief background is presented by describing the increasing importance of the small business in the UK employment structure, the importance of small businesses in ameliorating regional economic and social inequalities and hence, their significance to rural areas.

Background

Storey (1980) suggests that during the 1970's larger firms were providing a decreasing proportion of industrial employment. The North East illustrates this point; between 1965 and 1970 employment in firms with less than 50 employees increased by 17% and among firms with more than 50 employees decreased by 20%. Storey (1983) and Fothergill and Gudgin (1979) have similar statistics, based on figures from the East Midlands between 1968 and 1975 when employment in firms with less than 20 employees increased by 2.7%. Over the same period, in firms with between 100 and 500 employees, employment declined by 2.2%. The trend is probably the same; the difference in magnitude is perhaps explained by the difference in base levels. More recently, in Northern Ireland between 1971 and 1981, statistics show a modest increase in firms with under 25 employees (1.3%); in all size groups above this there was decline; firms with between 200 and 500 employees experienced a decrease of 9.3%. The cause of these trends is not important. More significant is the increasing proportion of the employed working in small firms.

Unfortunately most of the statistics and studies relate to urban areas. In low population density areas the employment structure is necessarily different and thus it is not possible to extend these trends to all rural areas. The Northern Ireland figures include rural areas and suggest that only the very smallest enterprises are increasing in number. This point may have significance, assuming intra and inter-regional variations, for the general UK rural employment structure.

Gould and Keeble (1984) have given graphic examples of the importance of small firms to the rural economy. Small businesses, whether or not based on rural technologies are especially suited to rural areas. They are the obvious form for rural enterprises in areas with a low density communication network and sparsely distributed population centres. Gould and Keeble suggest that small firms often foster "healthy diverse local economies" in areas in which they are common. Fothergill and Gudgin (1982) found that new firms formation rates were higher in rural areas of the East Midlands than they were in large towns and cities. Similarly Mason (1982) found, in South Hampshire, that start-up rates between 1971 and 1979

were lowest in the cities of Southampton and Portsmouth and highest in rural areas, especially the New Forest. Statistics generated by Cross (1981) indicated that new firms (1) were the "most important source of job generation in Scotland's 12 most rural employment office areas". Gould and Keeble (1984) suggest that the new firm formation rate (2) is higher in East Anglia than in any other area of the UK. They conclude that "The East Anglian evidence indicates conclusively that new firms in Britain are more likely to start outside urban centres and have a greater impact in rural areas".

Using the "blunt tool" of State intervention to spread existing expansion is not effective in reducing urban-rural inequalities. Gould and Keeble's conclusions are depressing for small business policy and suggest that return should only be expected in the "very long term". Thus improving the atmosphere for small businesses in rural areas must be considered as a priority. The nationally available Loan Guarantee Scheme (LGS), Youth Enterprise Scheme and the aid measures from such agencies as the Rural Development Commission are important means for the provision of capital and advice for existing small businesses and entrepreneurs. Increasing the number and improving the quality of rurally based entrepreneurs is equally important. It is this function that rural technology colleges could perform most effectively. As yet there has been no analysis of the extent to which entrepreneurship skills are being taught by these institutions, through this would obviously be a crucial determinant in the performance of the other means of encouragement. O'Neill (1987) in his discussion on the performance of the LGS in generating new firms, suggests that the "role played by regional variations in the dynamism of the business environment and entrepreneurship" should be considered more thoroughly. It is possible using the existing educational infrastructure to modify the regional distribution of entrepreneurship. This should have a number of effects, the most important of which would be to increase the number of Start-Ups and to increase the proportion that survive.

The objectives of the study were to examine Colleges according to the extent to which small business subjects are taught, the way in which they are taught, how the people who teach them are experienced and their attitudes to Small Business. Further, the attitude of the contact staff member to small business is tested. These factors are analysed in aggregate. In the second part students of these colleges are

(1) The term "new firm" refers to a company "that has no obvious parent in any existing enterprise".

(2) "New firm formation rate" refers to the number of firms formed per year per 1,000 manufacturing employees in an area. Gould and Keeble (1984).

to harness this wasted resource. Lecturers require guidance education so that they can utilise their experience to teach SB more effectively.

It is interesting that 2 of the 19 colleges that have SB on the syllabus have no experience in any enterprise and only 2 have experience in both Start-Ups and SB's. At present there is probably no relationship between the number of staff and their relative expertise that colleges possess and the methods which they use to teach SB.

There is probably a definite association between RDA location and Start-Up experience. 25% of colleges within RDA areas have staff with experience whereas only 9% of those colleges without have similar experience. This may support the similar pattern in actual SB education methods discovered above. It is possible that owing to the opportunity for jobs in the RDA's that colleges are responding to the market need by providing a "tool kit" for self-employment while colleges outside RDAs are geared to providing courses that train students to be employees.

The distribution of colleges with staff members who have experience in Small Firms is more uniform but fewer (83%) colleges in the RDA group have staff with this experience than areas outside in which 90% of colleges have this experience.

It is not possible here to explain the reason for the difference between the magnitude of experience in Start-Ups and Small Firms but this difference may explain, to some degree, why so few colleges use the teaching methods they have at their disposal effectively.

The above conclusion is confirmed by college staffs' functional experience in enterprises. The respondent was asked how many staff in each college had the following functional experience: (Sue Birley 1987) Lead Entrepreneur (LE), Member of the Core Team (MCT), Investor and Director. Of the colleges claiming to teach business management 32% had 1 to 2 members of staff with experience as a Lead Entrepreneur and 26% with 1 to 3 members with experience in The Core Team. Of the 19 colleges teaching SB 26% and 42% had similar experience respectively.

Colleges that claimed to teach SB have a smaller proportion of members with experience of lead entrepreneurship than colleges that claimed to teach business management but had 160% more members with experience of the core team. In both director and investor classes the proportions are virtually identical. 12% of the 43 colleges have at least one member with experience as Lead Entrepreneur. This factor seems quite promising for the future expansion of SB courses.

staff who have direct experience of Start-Ups or SB are a pre-requisite for adequate and effective SB teaching. Next, therefore, the experience resources that colleges possess will be discussed.

Of these colleges that claimed to have Business Management subjects within their syllabuses only 66% (28 of 41) could use specialist business staff in their rural technology courses but 40 had more than 3 to call upon. In 13 of the 41 colleges there are no business specialists. This means that rural technology lecturers' personal experience in enterprises is of much greater importance.

In the 41 that claim to do business management only 22% (9) had members with any experience in Start-Ups; 12% (5) had one member only and only 2% (1) had 3 or more members. Of the 19 colleges claiming to do SB only 15% (3) had members with any experience in Start-Ups, only 2 had 2 members and only one had more than 3 members. This evidence confirms the trend identified above. Most colleges that claim to teach SB have no staff members with any experience in Start-Ups. Therefore though they claim to run courses on this subject it seems unlikely that those courses are adequate. Indeed those colleges that purport to teach SB have a smaller proportion of members with Start-Up experience than the aggregate of the sample. If lecturers do not have experience or background in Start-Ups they should bring in or acquire these skills. It is impossible to judge to what relative degree each staff member is experienced as the result of limitations of the questionnaire. It is possible that though there appears to be a smaller number of experienced people in this area that they have a greater depth of experience. Indeed more colleges that teach SB (15%) have 2 or more staff members with Start-Up experience than in colleges that do not teach SB (9%).

Although the focus has been on start-ups, in the rural context where diversification is critical, the skills needed are very similar and thus one might want to question the capacity of the colleges in this business area as well.

College experience in SB (1) is quite different. 74% of the 41 colleges that claim to do business management have one or more members with experience in SB's. Similarly, 72% of the 19 colleges that claim to do SB subjects had SB experience. Again it is difficult to assess the extent of this experience. The numbers here are very similar to those that claimed to encourage students to start SB's. It was suggested above that this experience is not utilised in formal courses. One could, however, conclude that there is a large latent potential. Education is needed in order

When asked, "Do you encourage students to start Small Businesses?" 74% of staff contacts said yes. This can be contrasted with the availability of Small Business teaching. There appears to be some discordance between the expressed behaviour of individual lecturers and college policy. This is further evidenced by staff attitudes which are discussed below.

In the section below the methodology of teaching Small Business (SB) is examined in order to clarify the patterns found above.

Of the 74% of colleges whose staff contact stated that they encouraged students to start SB's, only 37% appeared to be using explicit tools for teaching small business management. 63% gave general, financial or accounts advice not specific to small firms. Of the 43 respondents 6% (2) encouraged students to start ventures within a course. 6% used specialist guest lecturers, 6% examined the use and construction of business plans. 6% explored case studies and 21% examined Start-Up ideas.

None of those staff that said they encouraged students to start SB's used more than two of the SB specific tools mentioned above. Only one third (10 of the 43) of the 74% who stated that they encouraged students to start small businesses were willing or able to state what their methodology was.

This follows the discordant pattern discovered above; expression of staff perception of activities differs from the reality of methodology. There is considerable over-estimation of the adequacy with which SB is taught. It is significant that 20 of the 32 (74%) could not describe the methods that they used. Although 21 colleges stated that SB was taught on other courses only 10 of the 43 defined their methodology. It seems that there is a situation where there is the intention to teach SB but this is not formalised as part of the syllabus. Lecturers have the impression that they are "encouraging" students into SB. In most instances they are solely giving advice to entrepreneurial students who have developed their own ideas independently. The obvious inference is that while 74% are positive to the idea of teaching SB, fewer than one third have any grasp of the methods that are generally used to teach it. Perceptions of SB must vary considerably; these are examined below.

The extent to which lecturers are qualified to teach SB depends to a considerable degree on their personal experience of SB. This is an important determinant of colleges' success in conveying SB concepts to their students. It could be argued that

FINDINGS

Part 1

The first part of this work examines a questionnaire derived profile of the colleges and staff; from that base it attempts to determine the extent to which Entrepreneurship and Small Business Management is taught, how it is taught, the competence of the college staff to teach it and their attitude to Small Business in rural areas and in relation to students.

A

When asked whether Business Management was taught as discrete courses more than 81% said "yes". 25% do "short" term (1) courses only and 4.6% "long" (2) courses only. 51% do both short and long term courses. In terms of the UK as a whole this demonstrates a very high level of availability of business courses to rural graduates.

Of the respondents 14 colleges are located in or near (within a radius of 28 miles) Rural Development Areas (RDA's) and all of these colleges have some kind of separate Business course, with 43% offering both short and long term courses. Since RDA's reflect some of the more remote and deprived regions of rural England, it is mildly encouraging to find that there are management education facilities available to the people in RDA's.

95% of respondent colleges stated that Business Management subjects were part of their other syllabuses. This fact tends to support the notion that Business Management courses are highly accessible to rural technologists in the UK. However, the veracity of this statement is debated below.

When asked, 56% of respondents stated that Small Business Management was not part of their syllabuses. In England 47% did not do Small Business; in Wales this was 50% and in Scotland 42% but none of the 3 colleges in Northern Ireland responded positively. In relation to the distribution of RDA's, 42% of those colleges in close proximity did not do Small Business; the statistic for non-RDA colleges was 50%.

On the basis of the above evidence it is logical to conclude that Small Business is generally available within other courses in the UK except Ulster.

assessed according to their attitudes and job intentions in order to ascertain the extent of interest in small business.

Selection of the Sample

Probability sampling was totally inappropriate for this study because of the relatively small number of respondents, and the use of mail questionnaires. For these reasons the study attempted to examine the population of appropriate colleges. This strategy was effective to the extent that it produced a locationally diverse sample.

Data Collection

The data was gathered by mail questionnaire and therefore was subject to some restriction of response. In order to maximise the response rate the study was designed, where appropriate, according to the ideas of Linski (1975), who suggests a framework for questionnaire design which includes pre-questionnaire contact and the timing of reminder letters. The result is a biased sample including 61% of the sampling frame. This is an encouragingly high response rate and the conclusions based on these results may therefore be taken seriously.

The survey was divided into two parts. The first contact was to the Principals or equivalent and contained a questionnaire directed at them covering the first part of the study. With that questionnaire was a covering letter which asked for their co-operation in distributing further questionnaires to their students covering the second part of the study. The second contact contained the requisite number of student questionnaires and a further covering letter. The response to the first part was initially quite low. Since the second part was dependent on the first the response rate to this was much lower (2%). A pilot study completed at Silsoe College in 1987 is to be used to complement and contrast these results. Follow-up letters and duplicate questionnaires were sent approximately six weeks after the first and achieved a similar but much faster response which improved the overall figure considerably. The main features of the follow-up were a more personal covering letter, an amended questionnaire format, better quality printing, different colour paper and the omission of the request for further co-operation.



Only 5 of the 19 colleges have members with experience as Lead Entrepreneurs. This reflects the lack of experience in Start-Ups. The interpretation that among those colleges with small business programmes only a very few have any in-depth experience of what it is to start a small business is strengthened. A much larger number have experience in running a SB. The weakness seems to lie in the area of entrepreneurship. The small number of colleges that have members with experience in this area is reflected in the relatively poor use of entrepreneurship training tools. A larger proportion of colleges teaching SB (46%) have staff with MCT experience than those that do not teach SB (26%). This is what one would expect but it does not follow earlier patterns of approximate equity between the two groups.

Though there is a variation in entrepreneurial experience the availability and quality of SB education does not reflect this. There is relatively little regional bias (except Ulster) of SB education. It would seem that the rate of SB formation has very little relationship to the availability of education for entrepreneurs in these Rural Technology Colleges. If there were variations as the result education in these colleges, they would be difficult to observe in a regional study; though it is not possible to affirm that there is no relationship. The results of this study when compared with other works, notably Gould and Keeble (1983) indicate that there is no relationship here. It is therefore important that a further study be used to ascertain the possible extent of this relationship on the basis of a considerable improvement in the SB education available from these colleges.

Of colleges that are in or near to RDA's 50% have members experienced in LE and 70% have MCT experienced members. Of colleges that are not in close proximity to RDA's 30% (4:13) have LE experience and 53% (7:13) have MCT experience. It is obvious that there is a variation between these two groups but it is not possible to explain the extent to which this is the result of policies implemented in the RDA's. Further work is needed to clarify this relationship. There are many other factors which could explain this variation but it is not appropriate to examine these here.

The dominance of MCT skills over LE skills may explain the lack of use of entrepreneurship ideas. Most of the former group are dependent on MCT skills. They are later managers in SB's rather than the original entrepreneurs. It is suggested that perhaps they lack appreciation of the role of the LE and their courses reflect this. This bias suggests that in future education plans the emphasis should be on entrepreneurship.

When asked to define Entrepreneurship in their own words, 34% did not attempt a definition. 29% mentioned risk taking, idea development, initiative, drive and energy. 18% described the general process of accumulation of capital and 7% described an entrepreneur. One could conclude thus that 36% (15) of the 43 respondents defined entrepreneurship loosely. Not one of the personal definitions mentioned more than one idea. 8 mentioned opportunity recognition, 2 risk and 2 initiative.

None of the colleges that defined SB had a complete idea of entrepreneurship. This is not surprising since this is not an area of complete agreement, even among "experts". The meaning shifts between contexts and varies between writers. More significantly, none of the colleges demonstrated what has been judged as a complete grasp of entrepreneurship and 2/3 were mistaken or did not respond to the question. This could be interpreted as a very low awareness of entrepreneurship. The general level of awareness supports the idea that colleges are perhaps biased toward the MCT skills and therefore their courses are very weak in entrepreneurship teaching methodology. Also there is little relationship between the lecturers' perception of the extent to which they encourage SB and their grasp of the creation of SB. These findings further support the idea that there is a considerable need for educational courses to be entrepreneurship based.

Conclusion

The main conclusions of this part of the study are as follows:-

1. There is a considerable difference between staff attitude to SB and the extent and quality in which it is taught to students. Lecturers' perceptions are overly optimistic of the quality of present SB education. Only 10 of the 43 respondents were able to state in any detail what teaching methods they use. There is considerable variation in the way and extent to which SB is taught across the UK. In no Rural Technology Colleges is it taught using all of the tools that are available to teach it.
2. There is considerable potential for improvement because of the large pool of experience in SB that exists. Attitudes to SB in the rural setting and its importance to students are 90% positive. Lecturers in these colleges need and will likely respond well to guidance which is offered to them on the subject of SB teaching.

3. There appears to be a "skills gap". Very few of the respondent colleges have staff with experience as entrepreneurs; this may explain the low importance given to entrepreneurship skills by colleges. It is important that any guidance schemes focus upon the role of the entrepreneur.

4. It is essential that a study be undertaken to assess what potential these colleges have to improve the survival rate of rural small firms and increase the formation rate so that improvements that are implemented are targeted correctly.

Part 2

The student, arguably the most important part of the education process, has thus far been neglected. The study has examined the courses but has not given evidence concerning their product. The product could be defined as changed attitudes, increased knowledge and ability. The "acid" test of these courses is the approach to SB of the students who are their objects. This part of the study examines the attitudes and career intentions of a sample of students. The sample size is 97. It is estimated that this is approximately 2.2% of the total student population of the 71 colleges that formed the Sampling Frame. It was originally hoped that at least 20% would respond. This would have created a considerable base for valuable conclusions. Since the author did not have access to this size of sample, it is thought appropriate to contrast this data with statistics from an earlier Pilot Study undertaken at Silsoe College, Cranfield Institute by Dr S Vyakarnam and Peter Harding.

Attitudes

Of the respondents, 84% found the abstract idea of starting a SB attractive. This is confirmed by the earlier study mentioned above in which 83% of students thought that they would start a business at some stage in their career. Though the question does not require a definite statement, the magnitude of the positive responses suggests that most students are receptive to the teaching of SB skills and that given the opportunity of an effective SB educational environment they would be willing and able to start SB's. The extent to which students are positive to starting SB's suggests the impact that improved teaching of SB in their colleges could be significant in increasing the number of Start-Ups and improving their survival rates. If, as has been postulated above, now only 10% of colleges give identifiable SB teaching, the future potential for student motivated SB's could be enormous.

The positive responses to both surveys were given by asking questions in the indefinite sense; as the study examines later, most students do not identify themselves with SB in the present tense. Their attitudes change when their contact with SB's recedes into the distant future. The number who expressed a positive opinion is large however that opinion is expressed.

It was found that students also appreciated the role of SB's in rural areas. They were asked to what extent they agreed with the following statements.

- A. An increase in the numbers of Small Businesses in rural areas will reduce rural unemployment.

- B. An increase in the number of Small Businesses in rural areas will improve rural living standards.

Of respondents 62% agreed with statement A and 49% with statement B. Only 14% disagreed with A and 7% disagreed with B. It is postulated that the large number of neutral statements can be explained by complacency and lack of interest of the respondents. However with regard to statement B it could, in part, be explained by the lack of a number of students to associate themselves with SB and thus the improved living standards. The most significant fact is that most students do express the importance of SB to the rural economy.

Students' awareness of SB was tested using the same sample with one question; "What is the single most important item that a bank would need from you when considering your application for a loan to start a Small Business?" The expected answer was "a Business Plan" but over 1/3 said security was the main requirement. 25% said that a Cash Flow Forecast and breakeven analysis would be sufficient; 10% said a viable business idea was most important and only 2% mentioned a market analysis. Though 40% had an approximate understanding of what was needed none mentioned a Business Plan. These results are surprising since much of the publicity material generated by banks' Small Business schemes and Government Grant schemes stress the importance of the Business Plan as a first step for the prospective entrepreneur. Of the 97 rural technology students 84% were generally positive to SB but none had construed the need for a Business Plan as the first step in the process.

These students are appreciative of the vital role of SB's in rural areas and regard it as a definite career prospect however distant. Few are in the position, now, when they have left college to secure loan capital. This suggests that they, generally, have a very limited understanding of SB though most will probably attempt, at some time in the future, to start an SB.

Intentions

Having accepted that students are essentially positive to the idea of starting SB's, it seems logical now to examine students' plans. They were asked how likely they would be to start an SB immediately upon leaving college, after 1 to 2 years' work experience and after 10 years' experience. The proportions that said they were certain to or likely to were reversed between the first and last option. 75% of respondents said they were unlikely or certain not to start an SB upon leaving college. This decreased to 54% in the second option and further to 23% for the last

option. Thus 70% of respondent students said that they were certain or likely to start an SB after 10 years' work experience. 11% were certain or likely to start an SB on leaving college. Though one cannot use figures that cover the future as concrete, this does demonstrate the numbers of students in these colleges that are confident about SB and thus the size of the potential for improvements in SB education in these colleges. In the UK it is thought that only 4% of graduates attempt to start a business after graduation, while in the US it is nearly a third. (Brown, 1988).

More immediately, of the 11% that said they were likely to start SB's on leaving college, 4% said they were certain to. Extrapolated to the total population of students (c.4,500) this means that approximately 184 students across the UK, will probably attempt to start SB's this year (1988). Staff assessment (i) suggests that a maximum figure of 490 per annum is possible. Very few of these will have had any formal instruction in SB skills and very few will approach banks in an appropriate fashion; many may avoid banks as a source of loan capital. The failure rate may be quite high. Thus colleges, if provided with sufficient resources and guidance could improve the survival rate thus aiding rural development. Banks could benefit from regular and supportive contact with these colleges; ensuring that students are aware of their products and perhaps improving the ratio of intention to action in their and rural communities' favour.

Lastly, the study examines the SB enterprises which the above students are likely to pursue. Staff assessment (ii) suggests that farm enterprises (iii) on existing farms are most popular. Contracting (iv) is a clear second. Third are a large number of enterprises that are equally popular; these include fish farming, landscape gardening, forestry, tourism and farms. Fourth in the popularity rank is another group which includes horticultural businesses (garden centres and nurseries), requisite intermediaries, landscape design and farm shops.

The prima facie bias that appears toward farm enterprises and contracting may be the reason for or the result of the college's approach to SB teaching. Lecturers may feel that the rural technologist has sufficient knowledge to run this type of SB effectively without additional tuition. This is not a particularly effective strategy for

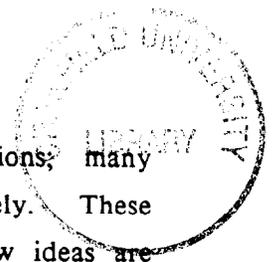
(i) 18 of the respondent colleges (those who were sent reminders) were asked what percentage of their final year students started SB's in 1987? 6 said 1-5%, 3 (6-10%), 3 (11-15%) and 2 (20-40%).

(ii) Of the 18 colleges that responded to the follow-up questionnaire.

(iii) Pigs, goats, sheep, etc.

(iv) Contract labouring, fencing, milking, de-horning, etc.

improvement or growth. In addition, not all students pursue these options; many may have new ideas and need guidance to explore these effectively. These traditional options cannot provide opportunities for all students. New ideas are essential for rural areas.



Overall students are receptive to SB teaching though they receive little formally. They appreciate the role of SB in rural areas. A considerable number, at least 184, will probably start SB's this year. They have definite Start-Up ideas but these are somewhat limited. They are not assisted to the extent that is possible in assessing ideas and the mechanics of entrepreneurship. The body of students is not fulfilling its potential for rural development in terms of SB and is therefore a wasted resource.

When asked for their ideas 58% of students indicated livestock enterprises or contracting. 5% were interested in farm secretarial agencies and farm shops, 3% mentioned requisites, sport, property speculation and kennels. The profile of students' ideas is limited and narrow. The importance of examining Start-Up ideas formally is thus emphasised.

Suggested Strategy

Phase 1

It is considered urgent that a study be commissioned into the importance of Agricultural, Horticultural, Forestry and other colleges that serve rural technologists in the generation of Small Businesses. A second objective would be to analyse how the current situation could be improved. Thirdly, guidelines could be produced on how the changes needed could be made most effectively.

Phase 2

The implementation of the above findings in this framework

Courses could be made available to tutor Lecturers in Small Business and entrepreneurship teaching methodology. It would be appropriate, to give this task sufficient importance, to designate an institution with extensive rural Small Business promotion experience as a National Centre. The role of this centre, as envisaged by the authors, would be to provide those essential courses, to do research and to publish guidelines on the continuing improvement of rural Small Business education. It is thought that the banks might play a greater role by providing resources, advice and in sponsoring national student rural Small Business Contests.

Appendix 1

1. Greenmount Agricultural and Horticultural College.
2. Loughry College of Agriculture, Food and Technology.
3. Enniskillen College.
4. Thurso College.
5. Weyland Agricultural Centre.
6. Clinterty College of Agriculture.
7. The North Scotland College of Agriculture.
8. Angus Technical College.
9. Dundee College of Further Education.
10. Elmwood Agriculture and Technical College.
11. Perth College of Further Education.
12. Falkirk College of Technology.
13. Oatridge Agricultural College.
14. Motherwell College.
15. Borders College of Further Education.
16. Barony Agricultural College.
17. Langside College.
18. Reid Kerr College.
19. Kilmarnock College.
20. Northumberland College of Agriculture.
21. Cumbria College of Agriculture and Forestry.
22. Durham Agricultural College.
23. Guisburg Agricultural College.
24. Askam Bryan Agricultural College.
25. Bishop Burton College of Agriculture.
26. Lancashire College of Agriculture and Horticulture.
27. Cheshire College of Agriculture.
28. Derbyshire College of Agriculture and Horticulture.
29. Nottinghamshire College of Agriculture.
30. Lincolnshire College of Agriculture and Horticulture.
31. The Welsh College of Horticulture.
32. Llysfasi College of Agriculture.
33. Gillifon College.
34. Montgomery College of Further Education.
35. The Welsh College of Agriculture.
36. Walford College of Agriculture.
37. Harpur Adams Agricultural College.
38. Staffordshire College of Agriculture and Horticulture.

39. Brooksby Agricultural College.
40. Lincolnshire College of Horticulture.
41. Isle College.
42. Norfolk College of Agriculture.
43. Otley College of Agriculture and Horticulture.
44. Chadacre Agricultural Institute.
45. The Cambridgeshire Farm College.
46. Shuttleworth Agricultural College.
47. Northamptonshire College of Agriculture.
48. Warwickshire College of Agriculture.
49. Worcestershire College of Agriculture.
50. Pershore College of Horticulture.
51. Hereford College of Agriculture.
52. Gloucestershire College of Agriculture.
53. Mid-Glamorgan College of Agriculture.
54. Usk College of Agriculture.
55. Royal Agricultural College.
56. West Oxfordshire Technical College.
57. Aylesbury College.
58. Hertfordshire College of Agriculture.
59. Writtle Agricultural College.
60. Hadlow College of Agriculture and Horticulture.
61. Plumpton Agricultural College.
62. Merrist Wood Agricultural College.
63. Berkshire College of Agriculture.
64. Sparsholt College of Agriculture.
65. Lackham College of Agriculture.
66. Dorset College of Agriculture.
67. Somerset College of Agriculture.
68. Bicton College of Agriculture.
69. Seale Hayne Agricultural College.
70. Cornwall College of Higher Education.

Bibliography

Birley, S. and McMullen, E: Academic Entrepreneurs. Research underway at Cranfield School of Management, Cranfield Institute of Technology.

Brown R: Director, Graduate Enterprise Programme, Cranfield School of Management, Cranfield Institute of Technology.

Cross, M. 1981: **New Firm Formation and Regional Development.** Gower.

Fothergill, S. and Gudgin, G. 1982: **Unequal Growth Urban and Regional Employment Change in the UK.** Heinemann.

Gudgin, G., Brunskill I., and Fothergill, S. 1979: **New Manufacturing firms in regional employment growth.** Research Series 39. Centre for Environment Studies, London.

Gould, A. and Keeble, D. 1983: "New Firms and Rural Industrialisation in East Anglia". **Regional studies,** Vol.18.3, pp 189-201.

Heilbroner, R.L. 1962: **The Making of Economic Society.** Prentice Hall.

Kiam, V. 1986: **Going for it!** Collins.

Linski, S. 1975: "Stimulating Responses to Mail Questionnaires: A Review". **Public Opinion Quarterly,** Vol.39, Spring 1975.

Lloyds, P.E. 1980: **New Manufacturing Firms in Greater Manchester and Merseyside.** Working Paper 10. North West Industry Research Unit. UMIST.

Lloyd, P.E. and Dicken, P. 1979: **New Firms: Small Firms and Job Generation: the Experience of Manchester and Merseyside, 1966-75.** Working Paper 9. North West Industry Research Unit. UMIST.

Lloyd, P.E. and Dicken, P. 1982: **Industrial Change: Local Manufacturing Firms in Manchester and Merseyside.** Inner Cities Research Programme 6. D.of E. London.

Mason, C.M. 1982: **New Manufacturing Firms in South Hampshire: Survey Results.** Discussion Paper 13. Department of Geography, University of Southampton.

McClelland, D.C. 1967: The Achieving Society. Free Press.

Meredith, G.G., Nelson, R.E., and Neck, P.A. 1982: The Practise of Entrepreneurship. International Labour Office, Geneva.

O'Neill, K. (ed.) 1987: Small Business Development: Some Current Issues. Gower.

Scholehammer, H. and Kuriloff, A.H. 1979: Entrepreneurship and Small Business Management. Wiley.

Schumpeter, J.A. 1970: "The Entrepreneur as innovator", Readings on Management. 2nd ed. McGraw-Hill.

Shapero, A. 1975: "The Displaced, Uncomfortable Entrepreneur". Psychology Today. November 1975.

Storey, D.J. 1980: "Small Firms and the Regional Problem". The Banker. Nov. 1980.