

EVOLUTION OF CULTURE: THE ROLE OF EDUCATION AND RESEARCH FOR DIVERSITY AND INNOVATION IN ICELANDIC RURAL SOCIETY

SKÚLI SKÚLASON

Hólar University College, 551 Sauðárkrókur, Iceland

Human history suggests that knowledge in one form or the other is the basis for human communities and societies. This applies to all structures of our cultures, ranging from ethical foundations of our relationships to how we build our industries. We are constantly engaged in processes that demonstrate this. Thus, in the last few decades we have seen major changes in many of our rural communities, changes which are often discussed in the context of urbanization, rising technology and global economic development. However, this can also be examined from the perspective of the rural community itself; that is how does it act when such process of change is ongoing? For example, is this perceived as a threat that demands defences alone or is the changing cultural landscape also seen as grounds for new vision and innovation?

Demographic development in Iceland since the latter part of the 20th century exemplifies the above process very well (2). Thus, we have seen traditional rural communities, characterized by sheep farming, as well as small coastal fishing communities undergo major changes. These changes have included emigration of people from rural and coastal areas, with the consequent social and economic problems. However, we have also seen numerous and ongoing examples of new developments in these areas, that is cultural evolution in response to changing circumstances. The foundation of such responsive processes stems largely from the vast natural and cultural resources that characterize Icelandic rural and coastal environments, but the changes are driven by innovative (creative) thinking, often in the form of organized research and education. Thus, we have seen strategic changes in the role of education and research, involving growing focus on higher education and specialization. A good example of this is the changing role of agricultural education in Iceland especially after 1980. Another example is recent development of numerous knowledge centers in rural and coastal areas, often focusing on local cultural or natural resource and opportunities for continuing education. We will return to these issues.

Along with locally driven efforts in rural and coastal communities in Iceland there have been numerous governmental efforts directed to resist negative changes and support industrial and cultural development projects (see 4). Such efforts have for example involved the creation of strategic regional funding for cultural- and industry development; some transfer of governmental institutions to rural areas or facilitation of multi-national industries, primarily aluminum smelters.

In this paper I will focus on the importance of diversity and creativity (innovation) in a cultural evolution process emphasizing the role of education and knowledge, with reference to events that are taking place in rural Iceland.

Some aspects of conceptual framework

We often hear that diversity in cultural activities and in industries is one of the primary bases for the development of healthy communities (4). The theoretical basis of this observation is that diversity or variability is the foundation of selection or choices. Thus, if there are to be choices or opportunities for creativity and innovation there has to be something to choose and/or create from. In fact one of the primary objective of human development identified by the United Nations is to „enable peoples choices“; or in other words to ensure diversity at all times (5). Thus, “simple“ solutions in rural development can be problematic since they may not support the necessary diversity.

Diversity in culture and industries is the fuel that possible selection, creativity and innovation need in order to drive or promote the process of change. Diversity can be realized through the availability of basic cultural or natural resources – including the diversity of knowledge - in a given area; through the promotion of opportunities provided from somewhere else and also as product of innovative local processes. For example any successful industry development project needs to have a clear vision to ensure opportunities for further future development, i.e. cultivate diversity.

Having identified the importance of diversity let us now focus on the selection phenomenon. Before considering selection we must ensure that we sense and identify what diversity there is to work with, i.e. what options there are to choose from. Making choices, being creative or innovative demands critical and insightful thinking and in order to be successful such thinking most often needs to be supported by special understanding and skills. Thus, experience, education and research are essential components of successful selection. The need for critical thinking of this capacity concerns both the ability to select the appropriate or the “best“ option(s) in the respective circumstances and to be able to properly predict and direct what choosing a particular option, or suit of options, will produce, i.e. what the outcome of this process will be like. It can be suggested that having well developed means to make “good“ choices strengthens individual- or community identity. This implies that having the individual and social capacity to make wise choices relates to the realization of independence and freedom.

The objective of research and education institutions should be to provide and support the necessary means to facilitate the above process in communities. Thus, successful rural development strategies need to take this into account.

The evolution of agricultural education and the development of various knowledge centers in Iceland provide living examples of the function of education and research in rural development. I will now selectively focus the role of such activities in the ongoing changes in rural Iceland with reference to the above conceptual framework.

Evolution of agricultural education and research in Iceland

In general, systematic agricultural education developed in a number of places during the 19th century. In Iceland this was strongly associated with the structuring of independent state along with technological innovation and importation of new knowledge in traditional farming activities. This continued to evolve during the 20th century where agricultural education and research supported primarily traditional agricultural activities such a sheep- and dairy farming along with necessary land cultivation. In the latter part of the century, especially after 1970, the demographic changes indicated above became more noticeable. Thus, viability of communities in

Iceland emphasizing traditional agricultural activities was in many ways threatened. Among responses to this, rural and coastal communities started to search for alternative activities, i.e. examining the spectrum of options and thus relying on diversity. Examples of the options identified were: firstly, specific aspects of traditional farming, involving innovation in sheep and dairy production to serve changing society. A specific example is opportunities involving the Icelandic horse, but - like other farm species in Iceland - the horse has evolved as a special breed with special characteristics due to over a thousand years in isolation from the ancestral Norwegian origin. Secondly, new farming opportunities were identified, such as aquaculture and forestry, e.g. for recreational-, land reclamation- and production purposes. Thirdly, opportunities related to land planning and environmental sciences were seen. Last, but not the least, there were opportunities related to new and creative activities involving natural treasures, local history, cultural heritage and fine arts. This opened up the possibility of an entirely novel industry, namely tourism.

During the past half a century we have thus witnessed activities of selection, choices and innovation based on this diversity that have facilitated rapid cultural evolution in Iceland, especially in the rural and coastal areas. Evolution, that has partly been able successfully to meet challenges from changing conditions and to ensure a healthy development for individuals and communities.

Agricultural education has played a vital and dynamic role in this process, both in terms of identifying options and especially by supporting the necessary mental capacity that choosing and developing a successful option requires. Today, there are two public agricultural education institutions in Iceland, the Agricultural University of Iceland (www.lbhi.is) at Hvanneyri in SW-Iceland and Hólar University College (www.holar.is) in NW-Iceland. They are both located in rural Iceland and based on agricultural collages that were founded in the latter part of the 19th century. Today they are both accredited as two of four public universities in Iceland, a development that has primarily occurred in the past 15 years. The development of these institutions has naturally involved all sort of political issues and institutional changes, including the merging of the Horticulture College and the Agricultural Research Institute in the forming of the present Agricultural University of Iceland in 2004 (see (1) on the development of higher education Iceland, written just before Hólar joined the group of universities).

After 1970 educational programs of the present agricultural colleges started to change, a change clearly associated with the cultural evolution process indicated above. Thus, the college at Hólar was completely changed in 1980 focusing on specialized aspects, namely equine science, aquaculture and later rural tourism; programs which now constitute three departments of the school. The programs of the college at Hvanneyri remained focused on more traditional agricultural activities, but later specialized programs, e.g. of land use, environmental planning, forestry and horticulture were developed. An important milestone in the relatively rapid changes of these educational institutions was the formation of an agreement in 1995 where the schools acknowledged each other's specializations. This allowed for more focused departmental specializations within each institution and better use of limited resources, such as public funding.

An example of Hólar University College

I will now focus on the function of Hólar University College (HUC) in relation to the development of aquaculture and other aquatic activities, horse based activities and tourism, but the rapid development of these industries and the development of HUC have been hand in hand. After the school had started to specialize it was possible to not only develop more qualified teaching programs, but also it was possible to develop organized research. This involved the recruitment of more educated faculty and also strategic development of the necessary facilities to conduct teaching and research. The following academic development has involved systematic collaboration with other academic institutions in Iceland and abroad. For the purpose of this paper, it is especially important to identify that the development of each specialized program has been conducted in close association with the respective industries. Thus, the equine program is developed in collaboration with the Icelandic Horse Trainers Association, the aquaculture program in collaboration with fish farms and industrial associations, and the tourism program has been developed in collaboration with a number of small and medium sized tourism companies, especially in rural Iceland, including the Icelandic Farm Holidays.

In the last two decades we have seen dramatic developments occur in all these respective fields involving various social and economic factors. Thus, breeding, competition and recreational activities with the Icelandic horse have grown substantially supporting alternative farming and horse based businesses all around Iceland. These developments are not restricted to Iceland since Icelandic horses are common in a number of countries. Accordingly, a number of foreign students study equine science at HUC. Secondly, aquaculture has become a recognized industry with significant income and future potentials. Finally, tourism has grown from almost nothing to being one of Iceland's primary industries with a significant share of national revenue. Tourism is to a great extent connected with rural Iceland, with focus on diverse volcanic landscapes, cultural heritage and cultural activities. It serves not only as an economic force but also as means of maintaining and growing community infrastructures and identity.

The association of HUC with these developments has resulted in growing number of students, more research projects and more impact on the local community, both in terms of demography and economic impact. Naturally the cultural evolutionary process involving horse-based activities, aquaculture and tourism in Iceland have not been without problems. However, there is no doubt that research and education has played a vital role in the successes that have been realized. This can be seen in the number of graduates from HUC and other educational parties that are in key positions in the respective fields, and also in specific examples of application of results from research and development projects that have been conducted. To mention only one example is a breeding program for the culture of the salmonid fish Arctic charr (*Salvelinus alpinus*) that was established at HUC in 1992 in the wake of a wave of Arctic charr farming. This program now serves the industry with high quality brood stock that is essential to its economic viability. In 2010 the foreign revenue of export of farmed Arctic charr in Iceland was about 4 billion ISK.

The specific example that I have provided of the association of selected aspects of rural development in Iceland and the involvement of Hólar University College is to emphasize how education and research institutions can respond, in this case swiftly, to societal needs during times of change. The challenge for any society is to acknowledge the essential function of education and research for successful cultural evolution –

especially for the process of choice - and be able to respond accordingly. As shown by numerous examples from rural communities worldwide, events that demand changes can be abrupt and processes rapid.

Concluding remarks

The government of Iceland, community leaders, leaders of industries and the general public have clearly recognized the importance of education and research for community development. In addition to the above example of agricultural education we have seen the rise of various small knowledge centers, especially in rural and coastal Iceland. In a recent governmental survey 189 such centers were listed with substantial revenue and major influence on community infrastructure (3). These centers are most often based on some specific feature of local culture or surrounding nature. Following the economic crash in 2008 we have seen even more focus on education and research for the developing Icelandic society. Thus, the ministry of education and culture has organized the development of collaborative network of public universities in Iceland. One of the objectives of this network is to guarantee university activities in rural and coastal Iceland. Such objective has not been presented in such a strong way in Iceland before.

To conclude, the general notion that knowledge plays a vital role in development of healthy vibrant communities and societies can be visualized by ongoing examples. These living examples provide the opportunity to examine basic features of such processes. Here, I have briefly examined a specific case in Iceland with reference to the concepts of diversity and selection, which are vital components of any evolutionary process. Further analyses should in my opinion examine more closely how this approach may better explain how we may structure sustainable and resilient social units in the human world.

References

1. Jónasson, Jón Torfi (2004). Higher education reforms in Iceland at the transition into the twenty-first century. *In* Ingemar Fägerlind og Görel Strömqvist (Eds.), Reforming Higher Education in the Nordic Countries. Studies of change in Denmark, Finland, Iceland, Norway and Sweden (pp. 137-188). Paris: International Institute for Educational Planning.
2. Jónsson, Stefán Hrafn (2004). Public education in Iceland. *In* Helgi Gunnlaugsson og Þóroddur Bjarnason (Eds.), *Icelandic Sociology: birth of new science* (pp. 137-153). Reykjavík: University of Iceland Press (in Icelandic).
3. Report on knowledge centers in Iceland (2010). Icelandic ministry of education science and culture (in Icelandic).
4. <http://www.forsaetisraduneyti.is/verkefni/soknaraaetlun-2020/> (in Icelandic)
5. <http://www.beta.undp.org/undp/en/home.html>