Theme : **Place based innovations,** Local innovation systems and local key institutions
Title   : **Role of Local Forum for Bridging Transfer of Technology: Lesson Learned**
             Community University Partnership from Jatinangor University Town

Ery Supriyadi Rustidja, Institut Manajemen Koperasi Indonesia,

erysr354q@yahoo.com ; erysupriyadi354@gmail.com ; erysr@ikopin.ac.id

Ery Supriyadi Rustidja. The Indonesian Institute of Cooperative (Ikopin), Bandung, Indonesia. Ery Supriyadi Rustidja graduated from Bogor Agricultural University (IPB) in 1985 having majored in Socio-Economic of Agriculture. In 2008, he *graduated PhD* in Urban and Regional Planning at Bandung Institute of Technology (ITB). He is Lecturer /Researcher of The Department of Cooperative Management, concurrently as Secretary of Ikopin , Institute of Cooperative Research of Ikopin. Fax : +62227796033. Email : erysr354q@yahoo.com. Since 2000 he became a founder and a board of the Forum of Jatinangor organization, Community of Jatinangor Association and the Jatinangor Higher Education Forum.. Starting 1995, he has been working on a number of project at Center Business Incubator of Ikopin. Starting 2009 – member of the organizing the Planning Expert Association in Bandung, Indonesia. He teaches courses : Regional Planning, Strategic Management, and Economic of Human Resources Management

Abstract

Community University Partnership (CUP) as part of a triple helix space is a systemic process between actors and between institutions that interact with each other directly. The role of university and local institution as a transmission channel of knowledge through research, both nationally and internationally will be able to transfer of science and technology to the local conditions. The critical point contribution of universities-community partnership is role of the university not only as agent of generative of growth in regional development, but also accelerate regional development through transfer of technology to the community and local conditions. The effectiveness of the interaction of technology transfer can be seen in the variable impact point and local capacity development. Local Forum is important local key local instution for conducting transfer of technology process, including involving, social learning process, structural social process amongs actors of university –communities

Keywords : *forum, local, innovation, institution, partnership*

Introduction

Capacity and progress of regional development can de portrayed by relationship between the social, economic and environmental . The capacity of region development can be seen in the capacity of innovation and innovation development centered, which is a key element in region innovation systems. The University has the resources and expertise of knowledge that contribute significantly to capacity of region development. The University also provides a knowledge base for industry and suppliers of research and development for communities through education, research, and socio-economic

development of the region. However, the university does not merely have ability to produce science and technology, but also ability to deliver and disseminate knowledge to businesses and communities. Science course delivery requires proper setting agendas, both media, ideas, and processes in order to achieve high level effectiveness transfer of technology and worth the benefits .

Community University Partnership (CUP) is one of framework to support share of knowledge that creates transfer technology and entrepreneurial interactions. Individual and group learning in a CUP are social and collective learning process, so this partnership as social bonds among various other parties in region. Partnerships are learning and cross-pollination (cross polination) between the university, the community, government, industry, and growing fantasy or new resources.

As development agencies, universities and local institutions is an important element in regional innovation system and planning to solve global economic challenges, so that effect and mechanism of strength local agencies is important to know how process of regional innovation strategy. Role of local institutions bridging and catalyzing process of transfer of technology from universities to businesses and communities.

State-of-the-art

University has the capacity as a source of knowledge and technology, but often too preoccupied with the university itself, less immediate concern with campus environment, or the flow of communication in technology transfer to the surrounding community and industry is very limited. University more enjoy and fun with science and technology at the function produces in the world (world wide and beyond), but the surroundings are a lot of potential and problems that require solving and resolution. Actually there are a number of opportunities and problems that require a role for the university in the form transfer of technology efforts to provide alternative solutions to social, economic and environmental as well as answers to the problems faced by the surrounding community.

Cooperation and learning capacities of various organizations in regional innovation system as a core competency of an regino is important, especially more so for development of region in the Higher Education Town (HET). Trust and cooperation among businesses is essential cultural norm in order to glue of interactive learning in regional innovation system, as well as local cultural cohesion in the interaction of the actors in the region. Furthermore, innovative environment is formed when the trust and cooperation among actors based on the principles and norms of transparency.

The role of university and local institution as a transmission channel of knowledge through research, both nationally and internationally will be able to transfer of science and technology to the local conditions. The critical point contribution of universities-community partnership is role of the university not only as agent of generative of growth in regional development, but also accelerate regional development through transfer of technology to the community and local conditions. A fundamental question is how the transformation and transfer of technology contains a breakthrough, seeding new companies, create jobs, and encourage innovation for the benefit of the campus environment is reciprocal. There is a question how local agencies can facilitate the transfer of this technology to achieve the transformation and the impact of innovation capacity of region can increase.

Gilderbloom (2002) stated that university and community partnerships must be developed in a way that can result in gains for the community at large and help to turn the ivory tower into a bridge to the community. In one side, strong involvement with juvenile justice issues, neighborhood strengthening, service learning for students in the community, and mentoring programs must be carry out by campus, and the other side universities establish engagement programs and structures that link faculty expertise to the knowledge needs of the community. It is important to synergize the leadership of the college with the academic atmosphere of the research as a first step to anticipate the needs of work and research funding schemes to be carried out to the community or with the community. Other synergies also about understanding between members of the research team as a whole varsity team with a variety of knowledge, methodologies, instruments, and criteria. However, the critical point is synergy between the interests of the university to the community.

According Amen (1999) university and community contribute their expertise to enhance understanding of a given phenomenon and to integrate the knowledge gained with action to benefit the community involved. Like Wegner (2000) stated that strategic community partnerships to ensure the continued vitality of each, community, region, and institution. Brukardt, etal (2002) stated that how the idea of community-university engagement has become an invigorating and transforming vision for an entire institution. So, partnership is synergy relationship between actors to get beneficial reciprocal.

The process of institutional interaction is fundamental in creating, maintaining, and communicating knowledge and technologies that contribute to changes in cultural, social, economy of communities. University partnership with communities (CUP) is embodiment of the mission of higher education, by providing access to the community. Through CUP, consensus can wake bridging the university and community relations and promote greater cooperation for regional economic growth.

A fundamental question is how the position of the local forum of effective community-based initiatives in order to improve effectiveness transfer of technology and the capacity of region.. How did the collaboration between agencies at local forums in the learning process and the structure of the social changes taking place. Another question is whether the initiative can stimulate the development of community assets, responding to local needs, mobilize participation and achieving short-term goals, and generate change regions.

Methodology

This paper is the result of research that examines transfer of technology process and CUP in HET of Jatinangor in order to see how the trend of improving the capacity of innovation, learning effectiveness, and strengthening social cohesion in campus region through local forums, so that the relationship between government, universities and community can contribute for welfare of local development. The study was conducted with study of searching of several transfer of technology activities in a few field of science (agriculture, fisheries, livestock, communication, cooperative, urban environment) and through action research. To reinforce the objectivity of the research conducted triangulation of data and

4

information that has been obtained. The results of further research is encapsulated in the description and explanation of the process activities and transfer of technology format and transformation happens.

Findings and interpretation

Based on observation and result of action research, found a few activity of transfer knowledge and technology that happened in HET. There are six action research activity of transfer knowledge and technology in HET of Jatinangor, such as community broadcasting (radio), youth organization, cooperative, art and culture studio, fishery organization, livestock. All of activities build by participative planning (community, academia, local government, and activist) and based on community empowering scheme. These activities involve a number of active persons from local communities, universities, local government, and members of local forum. According field of research, the activities can be explained :

1. Community Radio "Bedja"

Community radio, 107.7 FM is called radio Bedja had functioning information media for residents and surrounding areas of Jatinangor, whether it be information Local Government policy, and environment news among residents in the area Jatinangor. The existence of community radio "Bedja" very strategic for the development of the region Jatinangor relatively rapidly, especially in establishing inter-agency public information services stakeholders. For certain events, radio Bedja exploit potential of the community and the college, including the role of Faculty of Communication of Padjadjaran University. There are collaboration activity between local community, universities members in Jatinangor, and members faculty of Padjadjaran University, such as improving the ability or skill of broadcast for all local broadcasters and radio managers Bedja, broadcasting training, covering the activities of the election (Legislative and President), carrying out collaboration training broadcasting courses between local community and members faculty of university.

Forum Jatinangor role in facilitate and advocate of broadcast activity for local youth through focus group discussion, meeting, and training. Forum Jatinangor assisted local community to provide instrumental

detail of radio broadcasting service, donations, infrastructure radio funding, capacity building fund radio beam coverage, and add to provide antenna tower and radio network transmitter.

2. Youth Organization of Jatinangor

The youth organizations of Jatinangor attended as strategic role in the handling of unemployment, especially in the main set of employment. The fecklessness of youth closely related with limited skills from local people in Jatinangor, they possessed weak, so that they are not able to compete with migrants in Jatinangor.

Forum Jatinangor provide life skills training, entrepreneurship and management of finance by The Indonesian Institute of Cooperative (IKOPIN). The forum be a liaison with the community college presence in a way. Forum catalyze for the youth to get entrepreneurship capacity building by training activities in micro-enterprise economies of scale and develop business confidence. This activity became one of the alternatives for meeting the needs of the self while strengthening the independent economic empowerment by creating a group of business independently and directed. Forum Jatinangor assist youth of Jatinangor forum for supporting venture capital in convection and printing business. Such efforts are still running today under the leadership of chairman youth of Jatinangor. Number of active people involve 8 person from local, 2 person Forum Jatinangor, and 2 person from Ikopin.

3. *Motekar Cooperative's*

Motekar cooperative engaged in the savings and loan. The cooperative role as catalyst for members promotion activity such as additional capital based on cooperative principal, mandatory and arbitrary. The coop had never received an injection of funds from the government. Members of coop develop business cooperation by independence scheme and self-reliance. This cooperative conducts its business activities in the savings and loan business. Forum Jatinangor help form of additional working capital as a driver of business development in order to increase their production capacity and accelerate of marketing product of Cooperative Motekar members. Number of active people involve 23 persons from local, 2 persons Forum Jatinangor, and 2 students universities.

4. Studio "Sanggar" Motekar

Motekar is a studio that specialized in arts and culture that owned by local community of Jatinangor. This workshop not only serves to maintain local art and cultural traditions, but also frequently collaborated with contemporary art. The Motekar people artist train themselves and practice a variety of art ranging from traditional art to modern art endangered, on disabled martial arts, reading poetry, learning composing, beat the drum is called "nabuh gamelan", and harp playing. Being a center of art galleries there are many students elementary, junior high, SLA and students of universities attended to practice art skills. Training role to prepare skills for students of exchange students who will go out or coming from abroad.

Motekar build establish partnership with university in a variety of training and replenishment activities, Motekar Studio also has built alliances with Saung Ujo in filling material for spectacle for foreign tourists. Operation of arts and culture when the full moon in the studio Motekar. These activities are often held performances of ballet with the name "TOK MONTH". This art arena gets very lively enthusiasm from both public domestic and foreign tourists. In this activities often displayed art attractions and views, and juxtaposed with traditional culinary serve food.

Nevertheless, unfortunately this activity can not be carried out routinely place because of inadequate facilities and support activities, especially when it rains. Redesigning of studio locations is intended to support for strengthening the implementation of the studio. Activity for restructuring location of the studio got from Vice Governor of West Java aids, Rector of Unpad, and other members faculty universities in Jatinangor that attention to preserve of local culture.

Motekar made a documentary film about the collaboration activities between Motekar with members of Communication faculty of Unpad. These activities is roled by Forum Jatinangor to help Motekar get financial aid from universities and government. In spite of that, Forum Jatinangor give advocacy of local art and culture activities to various stakeholders. Number of active people involve 28 persons from local, 2 persons Forum Jatinangor, and 25 students from universities .

5. Herd Elephant Muling Group

Elephant herd Muling format originated from activities people of village of Kiara Beres in Jatinangor. Unfortunately, Jatinangor in raising sheep. In this area has historically in sheep farming, especially sheep shootout. Most of the people and household in the village maintained sheep. Along with this community habit then created art "Gotong" of sheep which is original art that was inaugurated by the Regent Jatinangor Sumedang.

To further develop the ranch in 2007 established herd sheep by name "Elephant Muling". The livestock feed is a very important factor in farming, feed abundant in the rainy season while the dry season is difficult. It is important that ability of farmers to cultivate and preserve of feed will be available continuously in order to available feed for sheep.

Forum Jatinangor role in facilitate group in order to work with the Faculty of Animal Husbandry of Padjadjaran University. Cooperation in the form of training programs to members of the group aim in order to gain knowledge of farm technologies so that they can improve production cattle ranch. Forum Jatinangor facilitated and made tighter the proposals of business and then submitted the proposals to the government of West Java provincial. This proposal got positive feedback through legislative provincial council members to get funding. Number of active people involve 22 person from local, 2 person Forum Jatinangor, and 5 persons from Padjadjaran University.

6. Fishery Farmer groups

Fishery farmer groups was motivated from needs of fresh fish supply on all traders in Jatinangor, how to fulfill demand of catfish on the region. Logging output data showed that 36 artisans undertake activities as "catfish pecel trader" in the region Jatinangor. A trader needs average number of supply 3-7 kg of fish per day, or an average number of supply need fresh fish as much as 100-125 kg per day. Local traders buy fresh fish from the market, especially from Jatinangor, while fish supply comes from Subang, Majalaya, Tasik and Central Java that too far from Jatinangor.

By using existed marginal land, farmer groups formed fish "Mina Mandiri". The group is divided by tasks based activity of group, suc as the nursery group and group augmentation. Both of activities can support each other that fulfill needs of seeds and fish consumption. Group activities focused on catfish or eel farms are relatively easy and can be done on small size. Forum Jatinangor role as stimulator for the farmers to advocate and facilitate interests of the group through the provision of seed requirements, fresh fish sales and post harvest process of fish product.

In addition, Forum Jatinangor bridge farmers group connected with member s of faculty researchers of the Faculty of Fisheries and Marine Resources of Padjadjaran University to improve their skills in practical on technical aquaculture of fisheries, encourage food processing of fisheries product, introduce fisheries technology through training and best practice experience of processing of fish. Number of active people involve 26 person from local, 2 person Forum Jatinangor, and 5 persons from Padjadjaran University.

The result of research can be describe in Tabel 1 and Figure 1. These table explain goal setting, substance, and spectrum of accomplishment that attainable by each activity of transfer of knowledge and technology in HET of Jatinangor. Based on observation and result of analysis, Figure 1 explain process and fact finding of research.

This study found that the process of transfer of technology by CUP including university and community initiative involvement, agenda setting, structural social process, and social learning process among actors. CUP as part of a triple helix space is a systemic process between actors and between institutions that interact with each other directly. CUP is a socio-cultural transformation of the adoption of science and technology, innovation requires setting the right agenda, preparation of financing, coverage-formulation stages, patterns of cooperation and interaction between multi-systemization. The effectiveness of the interaction of technology transfer can be seen in the variable impact point and local capacity development.
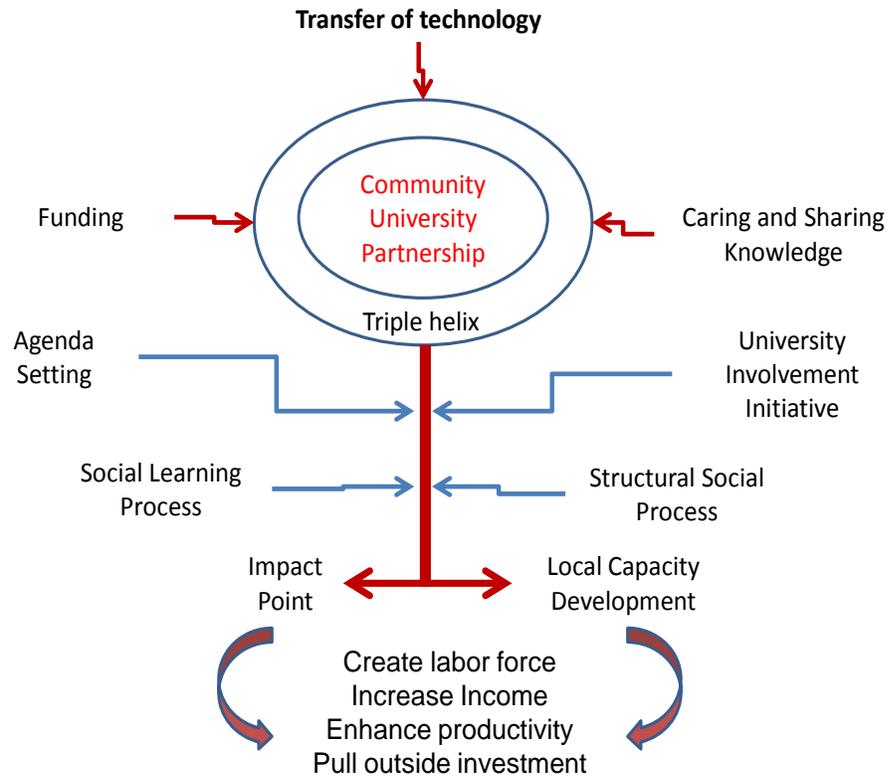
Table 1 . Fact Finding Activity of Transfer Knowledge and Technology in HET of Jatinangor

Type of Transfer knowledge and technology	Material / Sub Topic	Spectrum of Accomplishment
1. Community radio	• Broadcasting management • Broadcasting activities • Public information	• Know strategic alliance in public informing • Knowledge broadcasting system and infrastructure mass communication • Collaborate public planning information
2. Cooperative	• Saving and loans • Return on equity • Asset management	• Know the principles and values of cooperatives • Understand cooperative management system • Know saving and loans services • Know streamline return on equity and asset management • Know business development service of coop • Know membership promotion of cooperative
3. Youth organization	• Personal Development • Hard skill and soft skill • Creativity and innovation	• Awareness and know self-reliance management • Know human resources management • Understand good practice youth organizational
4. Studio "Sanggar Motekar"	• Art and culture • Local and modern culture • Tourism	• Know and develop local art and culture • Know and combine local art and modern culture • Promote local art and culture as good tourism practices
5. Livestock and Animal Husbandry	• Selection of seedlings • Recording seedlings • The introduction of animal feed • Cultivation of fodder crops	• Know and be able to feed preserving select seeds • Know and be able to make a recording of livestock activity • Know the types of feed for livestock • Know superior forage plants and use the land for cultivation bias • Know and be able to preserve fodder
6. Farmer Fisheries Organization	• Nursery of fish • Cultivate and aquaculture • Food Processing	• Know nursery technique of fishery • Know cultivate and water management system on fisheries • Know technology of food process based on fisheries materials

Sources : Result of research, and Factual Analysis.

This study also found that CUP in local capacity development (LCD) can be measured through the degree of internalization of knowledge (ownership, congeniality, commitment, satisfaction use acquire knowledge), institutional (information, soft infrastructure development, availability of finance, beaurocratic system), business networks and local learning facility, organization capability and knowledge, and competitiveness of business (business start-up development, labor force, outside investment) as stated Schoot Uiterkamp, and B.J. Pennink, B. (2012).

Figure 1. Finding of Scheme f CUP and Transfer of Technology in HET oj Jatinangor

Conclusions, implications for business management or policy

Transfer of technology give impact point and create the LCD in the form of labor force, increase income, enhance productivity, and pull outside investment. Local Forum is important local key local instution for conducting transfer of technology process, including involving, social learning process, structural social process among actors of university –communities.

Involvement, commitment, and motivation are element of cooperation as well as a condition of local agency and university would played role in Community University Partnership in transfer of technology. Lodging in HET of Jatinangor element, it is very important and urgent to give local forum to play an active role in regional innovation system and local development planning which is directly related to the development of urban areas of Jatinangor, local capacity and institutional development.

11

Literature :

Alter, C and Hage J. (1993). *Organizations Working Together*. Newbury Park, California: Sage Publications, Inc.

Amen, M. Mark. (2001) The Power of Institutions and Agents: Sources of Failed University-Community Collaborations. *Metropolitan Universities: An International Forum, The Scholarship of Engagement, 12 (4), 30-49.*

Amin, A. (1999) An institutionalist perspective on regional economic development. *International Journal of Urban and Regional Research*, 23, 2:365-378.

Armstrongs, H.W., and Kehrer B., and Well,P., and Wood, M., 2002. The Evaluation of Community Economic Development Initiatives. Urban Studies, Vol 39. No. 3, 457-481, 2002.

Brukardt, Mary Jane & Percy, Stephen L. (2002) To Change a University, Start with the Community. *Universities and Community Schools, 7(1-2), 59-64.*

Chaskin, Robert J. 2001. Building Community Capacity. A Definition Framework and Case Studies from a Comprehensive Community Initiative. Sage Publication. Urban Affair Review. Vol x36 (3) January 2001. p 291-323.

Checkoway, Barry, 1997. Reinventing the Research University for Public Service.   Journal of Planning Literature. Vol. 11. No. 3 (February 1997) *307-319.*Sage Publication. Inc.

Coleman, J.S. (1990). "The New Social Structure and the New Social Science." In J.S. Colemen, *Foundation of Social Theory,* Chapter 24. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.

Cooke P. (2001) Regional Innovation Systems, Clusters, and the Knowledge Economy, *Industrial and Corporate Change,* vol. 10, N. 4, pp. 945-974.

Cox, David. (2000). Developing a Framework for Understanding University-Community Partnerships*. Cityscape: A Journal of Policy Development and Research, 5(1), 9-26.*

Etzkowitz, H. and Leydesdorff, L., 2000, The dynamic of innovation: from National System and "Mode 2" to a Triple Helix of university-industry-government relations, Research Policy 29: 109-123.

Etzkowitz, H., Webster, A., Gebhardt, C., dan Tera, B.R.C. 2000. *The Future of the University and the university of the future: evolution of ivory tower to entrepreneural paradigm*. Research Policy 29 (2000) p.313-330.

Florida, Richard. 1999. The Role of the University : Leveraging Talent, Not Technology. Summer 1999 pp.67-73 University of Texas at Dallas, Richardson. TX.

Gray, B. and Wood D. (1991). "Collaborative Alliances: Moving from Practice to Theory." *Journal of Applied Behavioral Science.* 27: (1): 3 – 22.

Harkavy, Ira. (2000). Historical Evolution of University-Community Partnerships.*Community News. 12(2), 1-3*

Keating, Larry & Sjoquist, David. (2000). The Use of an External Organization to Facilitate University-Community Partnerships. *Cityscape: A Journal of Policy Development and Research, 5(1), 141-157.*

Lester, 2005. *Universities, Innovation and The Competitiveness of local economies*. MIT

Reardon, Kenneth M. (2000). An Experiential Approach to Creating and Effective Community-University Partnership: The East St. Louis Action Research Project. *Cityscape: A Journal of Policy Development and Research, 5 (1), 59-74.*

Romer. 1990. Endogeneous Technology Change. Journal of Political Economy, Vol.98, No. 5, pp 1002-37

Schumaker, Alice & Woods, Sara. (2001). The Role of a College in a University-Wide Approach to Community Partnerships: The University of Nebraska at Omaha Experience. *Metropolitan Universities: An International Forum, The Scholarship of Engagement, 12(4), 66-79.*

Taylor, Henry Louis, Jr. (1997). No More Ivory Towers: Connecting the Research University to the Community. *Journal of Planning Literature. 11(3), 327-332.*

Shaw, Sue. 2005. The corporate university: Global or local phenomenon? *Journal of European Industrial Training;* 2005; 29, 1; ABI/INFORM Global pg. 21

Witten, Lynn A, 1990. College and University : Development Human Resources For Economic Growth. Economic Development Review; Winter 1990;8; ABI/INFORM Global, pp22

Schoot Uiterkamp, and B.J. Pennink, B. 2012. Local capacity development via knowledge sharing: empirical results from Sulawesi. Groningen : University of Groningen, Globalisation Studies Groningen