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Collaborative Innovation in Maternal Mortality Rate (MMR) and Neonatal Mortality Rate (NMR) Handling Program in Sidoarjo

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Abstract: Maternal Mortality Rate (MMR) and Neonatal Mortality Rate (NMR) are the indicators to determine the degree of health of the country. Indonesia's progress in reducing MMR and NMR rated decreased by Unicef over the past five years. The government of Indonesia made various efforts. One of which was made by the Sidoarjo government created through technological innovation and collaboration program. This study aims to describe the collaborative innovation process and the strategies in efforts to decrease MMR and NMR in Sidoarjo. The study employed the qualitative method. This research finds that the government of Sidoarjo has used the collaborative innovation as well in making the innovative programme to solve the maternal and neonatal problems. The existence of empowerment, participation and learning process are mutually beneficial and transformative to all stakeholders. The driving shaft and obstacles can be overcome and managed through creative social activities. All of the collaborative strategies have used in this program. The cooperation and the public-private partnership shows the cultivation, replication and partnership strategies. The user of an integrated application applies the networking strategy. The open-sources strategy is conducted by gathering of academician in sharing knowledge and improving the innovation.

1 INTRODUCTION

Health is a fundamental human right which is essential for every human being. As the United Nations agreement on 10 November 1948 in the Declaration of Human Rights article 25 paragraph 1 states that "everyone is entitled to an adequate level of life for the health and well-being of themselves and his or her family. The degree of public health affects the level of welfare that is closely related to the level of poverty (Hardiansyah, 2011). Improving maternal health and reducing child mortality are essential to the public health status of the country.

In every country, the neonatal mortality rate (NMR) and maternal mortality (MMR) are one of the benchmarks of the implementation of state health development (Infodatin, 2014). In 2015, 5.9 million children died under five years old (WHO, 2016). More than half of neonatal mortality caused by preventable causes. As for maternal death, WHO (2016) says that about 830 women die every day because of avoidable cases associated with pregnancy and childbirth. More than 90% of maternal deaths occur in the developing countries.

Table 1: Mother and Infant Mortality Trends in Developed and Developing Countries 2005-2015

	2005	2010	2015
Developed Countries	186.667 (1,81%)	162.140 (1,78%)	132.768 (1,62%)
Developing Countries	10.091.965 (98,19%)	8.936.219 (98,22%)	8.014.434 (98,37%)
Jumlah	10.278.632	9.098.359	8.147.202

Source: United-Nation-IGME, 2015

Most of Indonesia's child deaths now take place during the neonatal period, the first month of life (Unicef Indonesia, 2012). Neonatal mortality is now the main hurdle in reducing further child deaths. In recent years, however, the reduction of maternal and neonatal mortality appears to have stalled (Unicef Indonesia, 2012). Therefore, serious efforts are needed by the Indonesian government to reduce MMR and NMR.

One of the regions that attempted to decrease MMR and NMR is Sidoarjo Regency. In East Java Province, Sidoarjo regency had been becoming the fourth large contributor to maternal and neonatal deaths over the last five years. The efforts of Sidoarjo

regency gets an appreciation from awarding institution to public service innovation. In 2014 the Jawa Pos Institute of Pro Autonomy (JPIP) awarded the Anugerah Autonomy Awards for Sidoarjo Regency for the innovation of reducing the maternal and neonatal mortality rate. The novelty of maternal and neonatal mortality program in Sidoarjo District was unique and comprehensive because the program involved multi-sector actors. Participants not only come from government but also private, NGO, academicians and expert practitioners and society.

Previous research by Arganoff was limited to government areas. Arganoff did not go further on the involvement of private and third sectors or communities. Therefore, the focus of this research is on the process of collaborative innovation and identifying the strategies of the government of Sidoarjo.

2 LITERATURE REVIEW

2.1 Innovation in Public Sector

According to Lloyd-Reason, Wall & Muller, (2002), innovation is an elusive concept. Innovation is very tough to describe in the form of the sentence because it is complicated. Innovation is the ideas of a new thought that works (Mulgan and Albury, 2003). In the public sector, innovation is one of the new “magic concepts” (Hood and Hupe, 2011). However, the public sector innovation research is thin, so the level of conceptualisation is low (Hartley, 2005). Public innovation is known as the result of compound thinking to address a problem in the public sphere. Innovation is considered a complicated process by Eggers & Singh (2009). Then the innovation is defined into four stages. The four steps include the generation of the ideas, the selection of the ideas, the implementation of new ideas and the dissemination of new practices.

2.2 Collaborative Innovation

Collaborative innovation is a collaborative approach to innovation and problem-solving in the public sector that relies on harnessing the resources and the creativity of external networks and communities, to amplify or enhance the innovation speed as well as the range and quality of innovation outcomes (Nambisan, 2008:11). Collaborative Innovation, in this case, is a non-linear process because the collaborative innovation process involves multi-stakeholders in making a public innovation. So, the

collaborative innovation will initially focus on the participation of empowered actors with different identities, roles and resources (March & Olsen, 1995). Therefore, collaborative innovation needs the empowerment of the human resources or actors. Sørensen and Torfing (2011) said that the collaborative innovation drives the activity of the participants, including the governments, the bureaucrats, the academicians, the private organisations and the society. This term in public sector is increasingly used as a strategy for balancing citizens’ rising expectations for public services with limited public resources (Agger & Lund, 2017). Collaborative innovation can be defined as a process of creative problem solving through which relevant and affected actors work across formal institutional boundaries to develop and implement innovative solutions to urgent problems (Sørensen and Torfing, 2018).

2.2.1 Collaborative Innovation Processes

Collaborative innovation is the crucial resource for the public sector innovation. Collaborative innovation arenas distribute authority horizontally, valorize creativity, experimentation and change, define good governance in light of outcome and problem-solving capacity and are inter-organizational in perspective (Agger & Sørensen, 2018).

The focus of the collaborative innovation process includes:

- (1) The empowered participation is the empowering of the involvement of public and private actors in processes of creative problem solving tends to create a joint ownership of new and bold ideas and spreads the costs of failure (Torfing, 2016:3). The process requires the significant changes in power relations between the actors of collaborative innovation. So, the challenge of public leaders here is to stimulate processes of future emergence through proactive actions, rather than reacting to the past performance of an organisation and its employees (Sørensen & Torfing 2018).
- (2) Mutual and transformative learning is the process that can mutually enrich each actor and lead to new understandings for the actors (Pettit, 2012). The exchanges among actors with different experiences, perspectives, opinions, ideas, and resources tend to challenge conventional wisdom and inspire the creation of something new (Sørensen & Torfing 2017). So, individuals and groups can develop capacities to address the conditions to reach the objectives.

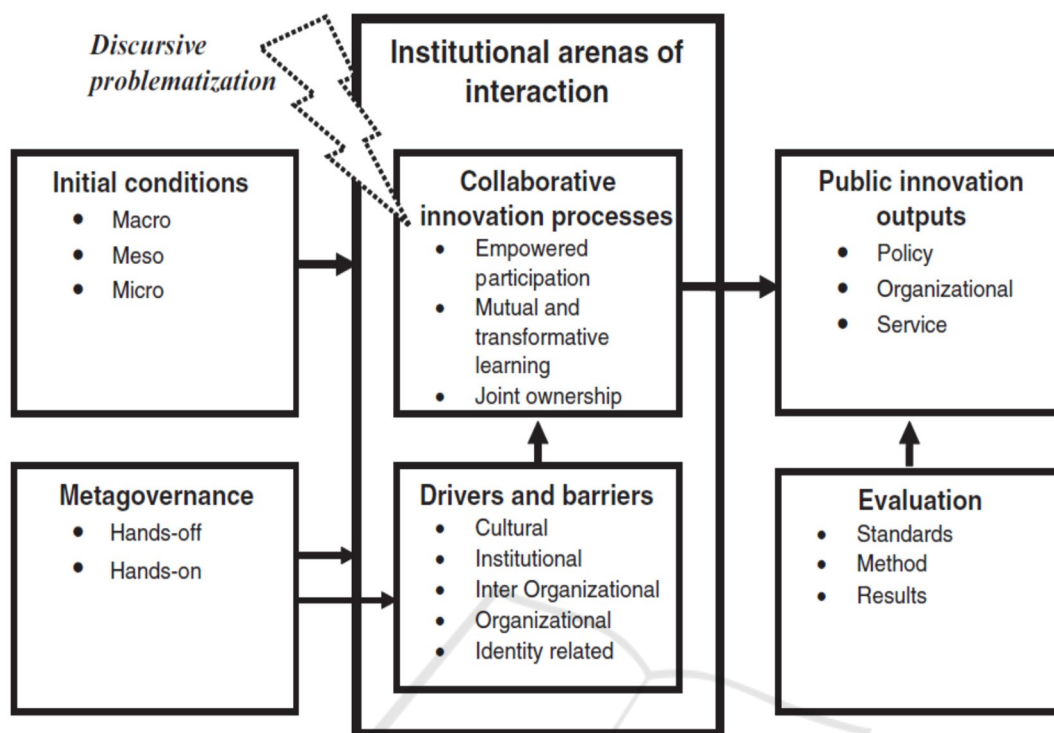


Figure 1: Analytical Model of Collaborative Innovation Study (Source: Sørensen & Torfin, 2011)

(3) Joint ownership refers to a situation in which the properties of the actors in the collaborative process are own by the public. Joint design, testing and assessment of prototypes is a promising way of selecting and adapting the most promising solutions (Eggers & Singh, 2009). The development of joint ownership over new and bold solutions enhances the prospect of successful implementation (Eggers & Singh, 2009).

collaboration between public and private partners, which have a different rule and resource bases;

- d) The network strategy aims to facilitate the exchange of ideas, mutual learning, and joint action through horizontal interaction between relevant and affected actors who have different kinds of resources and expertise;
- e) The open-source strategy aims to produce innovation by using the Internet to invite unknown cocreators from around the world to help to solve a specific problem.

2.2.2 Collaborative Innovation Strategies

Collaborative innovation is a crucial resource for the public sector innovation. Shalabh Singh (2009), mentioned there are five collaborative strategies, including:

- a) The cultivation strategy aims to facilitate collaboration between different kinds of public employees so that they can exchange and develop new ideas and test them in their everyday working life;
- b) The replication strategy aims to foster collaborative relationships with other public agencies to identify, translate, adapt, and implement their best and most successful innovations;
- c) The partnership strategy aims to develop and test new and creative ideas through

3 METHOD

The approach of this research is a qualitative approach. The object of the study is a program of handling of maternal and neonatal deaths in Sidoarjo Regency. This study described the process dan the strategies of innovation program through the perspective of collaborative innovation theory. The informants was taken by the purposive technique. Informants consist of various actors involved in the collaborative innovation process in Sidoarjo Regency including governments, private, non-government organisations, society or citizens, and the other stakeholders.

Data collection did by the various activities such as 1). Define the settings of the locations; 2). Gaining the access and building the relationships; 3). Purposeful Sampling (Informant Determination); 4). Collecting the data; 5). Recording the information; 6). Solving the field problems, and 7). Store the data (Creswell, 2015). Data analysis technique is done by data compiling, reduction and categorisation (disassembling), data compilation (reassembling), Interpretation of data (interpreting) and concluding (Yin, 2011).

4 RESULT AND DISCUSSION

4.1 Collaborative Innovation Process in Sidoarjo

- (1) The empowered participation. Collaborative innovation in the public sector regard to the integration of a variety of actors (Bommert, 2010). So, empowered the participation is the important preliminary process of collaborative innovation. The maternal and neonatal handling program empowered the engagement through the socialisation. The government gained the involvement of the actors by approaching with the stakeholders.

The training program has done for all actors. Based on the evidence in the field, it is done to make each actor holding the same ability. Ability, in this case, is an awareness of maternal and neonatal death cases. Later they have been aware of the importance of maternal and neonatal death cases. Furthermore, they will contribute to the reduction of maternal and neonatal mortality cases. So, not only from the government but all actors from various sectors with different backgrounds mixed and participated in the process of collaborative innovation.

- (2) Mutual and transformative learning. This process was carried out through training and learning for the handling of maternal and neonatal mortality cases. Hence, they collaborate each other because they believe that it may bring a different set of resources, views, and ideas to the table, and instead of eliminating these differences in the pursuit of an all including consensus, they must learn to exploit each other to spur innovation (Sørensen & Torfing, 2018). Learning between the actors has been done primarily regarding sharing culture, science and social life. The approach conducted through PKK and recitation groups. The process has been done to make all the

actors connected with the community directly because the community culture is more trust the words of religious leaders. So the religious leader is the main actors to increase the community awareness of the high risk of maternal and neonatal death cases. Then at the second level, there were healthcare agents/cadres in the community who are specially trained to monitor and give first aid when there are signs of an emergency for maternal or neonatal death. In this case, academics and practitioners of experts prepared software emergency handling that can be used by all parties easily. The next level started to spread to the medical, which also assisted with the software to know what to do. The informed dialogue among actors with different kinds of knowledge an experience helped to develop a deeper understanding of a problem (Eggers & Singh, 2009). Regarding government management, there were non-profit institutions which handle it. While the private sector provides technology and places that can be used together in the handling of maternal and neonatal mortality rate.

- (3) Joint ownership. Joint ownership demonstrated through sharing of the resources such as technology, equipment, human resources and the network of the maternal and neonatal system. All the actors can directly access (real time) the system by their own gadgets. Information and Communication Technologies (ICT) here facilitated the coordination and knowledge sharing at low cost across boundaries and thus supports collaborative innovation (Bommert, 2010). The barrier that existed in various sectors has now faded. Ultimately the problems of MMR and NMR become a burden and responsibility together. The actors work together and joint ownership to make the MMR and NMR handling program.

4.2 Collaborative Innovation Strategies in Sidoarjo

- a) The cultivation strategy. The strategy had done by various actors. The ideas were not limited to the scientists but also from the society who understand their own needs, such as cultural ideas.
- b) The replication strategy. The strategy had done through visits and lessons from various regions. Also, this strategy used in Sidoarjo itself by replicating the innovation to another area.
- c) The partnership strategy. This strategy evidenced through the establishment of partnerships between donor agencies (USAID), local governments,

- private organisations (Private Hospital), Non-Profit Organizations (Research Triangle Institute and Save The Children), Community Groups (PKK and Muhammadiyah) and Community (Health and Family Cadres).
- d) The network strategy. This strategy did by the building of the relationship between the actors. The construction of the network did the network strategy through social media such as WhatsApp groups, direct meeting (monthly and yearly) and also through the network of the maternal and neonatal handling system.
- e) The open-source strategy. This strategy did by making the application based on the early warning system. The cadres could detect signs of the vulnerability of maternal and neonatal death through specific procedures.

5 CONCLUSIONS

The collaborative innovation process in Sidoarjo Regency had well implemented. The government had used the collaborative innovation as well in making the innovative programme to solve the maternal and neonatal problems. The existence of empowerment, participation and learning process are mutually beneficial and transformative to all stakeholders. The driving shaft and obstacles could be overcome and managed through creative social activities. All of the collaborative strategies have used in this program. The cooperation of public agencies showed the cultivation. The replication strategy had done through visits and lessons from various regions. The public-private partnership conducted the partnership strategy. The user of an integrated application did the networking strategy. The open-sources strategy was done by gathering of academician in sharing knowledge and improving the innovation.

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