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## The Role and Competence of Agricultural Development Officers as Community Developers: A Scoping Review

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### Abstract

Discussions on agricultural development officers in the field of social science studies have long been discoursed by academics, community development practitioners and various formal and informal agencies since 1960. However, the results of studies focusing on the role and competencies of development officers in the context of community development remain limited. Accordingly, the study focuses on two main objectives, namely i) to analyse the trends of the study findings on the role and competencies in the field of community development and ii) to identify the role and competencies of agricultural development officers as community developers. The study analyses secondary data through content analysis techniques and examines the theme of the role and competencies of agricultural development officers in the context of community developers thematically. The results of the first objective study, found that the trend of research findings on the role and competence of agricultural development officers in the field of community development began to be analysed as a field of knowledge since 1960. While the analysis of the role and competencies of agricultural development officers has identified 11 themes as community developers: i) identify community forms and processes of social action; ii) respect the diversity/pluralism and multi-culture of community members; iii) implement development programs appropriate to the demographics of the community; iv) skilfully encourage community involvement in development programs; v) have information and ability to deliver developmental education; vi) establish interpersonal relationships; vii) have knowledge of organization; viii) leadership; ix) organizational management; x) have professionalism; and xi) master the field of community development in terms of theory and practice. In conclusion, the implications of the study on the literature highlights are able to build a deep and systematic understanding of the role and competencies of agricultural development officers in the context of community development practitioners in Malaysia.

**Keywords:** Community Developers, Roles and Competencies, Agricultural Development Officers

## Introduction

Discussions on agricultural development officers in the field of social science studies have long been discoursed by academics, community development practitioners and various formal and informal agencies since 1948 (Abu Samah, 2021; Clark, 2021). However, the results of studies focusing on the role and competencies of agricultural development officers in the context of the field of community development are still limited (Abu Samah, 2021; Clark, 2021). This is because, agricultural development officers and community development work were only recognized as a world professional profession beginning in 1960 (Ayres et al., 2005; Sail, 2010). It is in line with the change of society which is faced with the challenges of the industrial process to change the simple social class system of society to a more complex one at that time. Development officers are assessed as a significant entity to provide support to all forms of community development activities that are able to improve the quality of life of community members in terms of social, environmental and economic development as desired by the community (National Association of Community Development Extension Professionals (NACDEP, 2021). In the context of this discussion, the role and competencies of development officers are assessed through the involvement of the agricultural sector.

Community development through the agricultural sector in developing countries is driven through the role of development officers as agents of change (Shah et al., 2013). A development officer plays a major role in conducting development activities through an approach that is appropriate to the values and culture of the community. It starts from an expansion-oriented top-down approach (Spore, 2003). Agriculture is seen as the most important sector for improving the well-being of farming communities faced with food security issues (Urbanowitz et al., 2014; Beaulieu & Cordes, 2013). The main challenge for agricultural development officers is that, the farming community refuses to be actively involved in development activities despite knowing the real situation of the need to innovate agriculture (Sail, 2010; Spore, 2003; Warren, 1991; Bonye et al., 2011). The question here is, do development officers play a significant role appropriate to the context of the community to be developed? Second, what forms of competencies are required by agricultural development agents as community builders?

Based on the International Standards for the Practice of Community Development (IACD, 2019), the role of community developer is considered as a professional profession based on academic practice and discipline that plays a key role in promoting democratic participation, sustainable development, rights, economic opportunities, equality and social justice, through organization, education and community empowerment within its own community, whether it is of location, identity or interest, in urban and rural areas. In this regard, the main emphasis on the role as a community developer is to encompass a basic set of values, goals and methods for working with communities that have different agendas and goals.

While the competencies of community developers include matters related to skills, knowledge and behaviors that support active participation in community development programs (Bonye et al., 2011; Seevers et al., 2007). Competencies based on Mulder's (2007) view are Qamar (2005) defines the competence of an agricultural development officer as an agent who masters community development process skills and has the technical skills to implement agricultural development education cooperatively. which includes innovation

and technical change, identification of target groups, organizational development in the community and implementing community development programs on a contract basis or through the farmer-field-school (FFS) and farmer-to-farmer development methods (Hanylani-Mlambo, 1995; Sail, 1995).

Specifically, several studies on the role and competencies of agricultural development officers have been conducted in several countries. For example, in Europe (Mulder, 2014), Asia (Khalil et al., 2009; Rigyal & Wongsamun, 2010; Tiraieyari, 2009; Tiraieyari et al., 2010) and Africa (Issahaku, 2014; Okwoche & Asogwa, 2012). These studies have identified a number of competency roles of agricultural development officers and concluded that clients i.e. the community are increasingly demanding development officers who can be relied upon in terms of skills, knowledge and behaviours appropriate to community development needs. Gibson and Hillison (1994) have identified 9 competencies of professional development officers that include program planning, research and evaluation, technical knowledge and understanding of social systems. Mulder (2007) identified a total of 4 competencies in terms of expertise, development methodology, social and participation. Harder et al. (2010) identified a total of 19 competencies of professional agricultural development officers. Compared to a study by Culp et al (2007) that listed a total of 32 competencies of development officers engaged in volunteer activities in the USA. In Malaysia, Sail (2010) had discussed the two key skills involving the skills of development officers in the context of human resource development and technical skills. Meanwhile, Shah et al (2013) in a study identified four main roles of agricultural development agents, namely as process assistants, problem solvers, resource liaisons, and catalysts.

Martin and Sajilan (1988) emphasize the competence of social relations among development officers oriented towards development methodology. In Korea, meanwhile, Chae et al. (2014) found that the competencies of client -oriented analytical, interpersonal, strategic and agricultural development research skills were significant. A study by Tiraieyari et al (2010); Vandenberg and Foerster (2008) in turn explained that technical competence is a key domain of the success of community development programs. In addition, leadership as a competency was also found in the studies of Moore and Rudd (2004); Namdar et al (2010) including (Khalil et al., 2009). However, Varner (2011) concluded that the development of the new era of agricultural sector has led to the worldviews on the competence of agricultural development officers because of the mastery over community values, norms, and systems that is considered to be significant in ensuring the continuity of community development programs.

Assessing the importance of agricultural development officers to the development of farming communities, this paper aims to analyse the coverage of the study on the role and competencies of development officers in the discourse of community development. Specifically, the objectives of the study were to:

- i) Analyse the trends of role and competency research findings in the field of community development; and
- ii) Identify the role and competencies of agricultural development officers as community developers.

The analysis of the themes of the literature review of this study, were at least able to fill the knowledge gap about community development studied through the perspective of the role and competence of agricultural development officers in Malaysia as community developers.

## Research Methodology

This study aims to i) analyze the trends of the study findings on the role and competencies of agricultural development officers in the field of community development, and ii) identify the role and competencies of agricultural development officers as community developers. To achieve the goals of the study, a quantitative study design with a descriptive method approach is used to present the data in the form of frequency distribution and percentage of study information. The study used literature highlight analysis techniques by Tricco et al. (2018) who introduced the PRISMA Extension scheme for Scoping Reviews (PRISMA<sub>ScR</sub>): Checklist and Explanation as research methods.

### i) *Data Collection Procedures and Procedures*

The information collection technique is to use content analysis as empirical data that presents the survey results of previous studies. A number of research themes have been set, namely the field of community development as the focus of the search. Meanwhile, the setting of sub-themes is based on the objectives of the study, namely, i) role; ii) competence; iii) agricultural development officers; vi) development agents; and v) community developers. The restricted search year starting from 1960 until 2021 is rationalized because studies show that 1960 was where the discipline of community development began to be discoursed (Kenny, 2007).

The use of content analysis techniques or content analysis in writing the results of literature highlights systematically is able to increase the credibility, transparency and reliability of data (Tricco et al., 2018). This is in line with the description that content analysis is an objective, rule-guided technique used to make replicable and valid inferences by analysing (coding) the characteristics of visual, verbal, and/or written documents. Content analysis can take on a quantitative and/or qualitative approach, applied either inductively or deductively depending on the specific research questions and research design (Creswell, 2014; Khirfan et al., 2020). Accordingly, this literature review is combined with content analysis techniques to support the results of the study analysis.

Content analysis techniques on the writing of scholarly papers in the field of community development and agricultural development were pioneered by several early scholars such as Goldsmith (1984); Radhakrishna (1995); Bradford (1994). The results of a review of literature highlights on development sciences related to farming community innovation have been reviewed based on research on journals as done by Goldsmith (1984). Followed by the next scholar Radhakrishna (1995) who evaluated the channels of authoritative journals that are often referenced by researchers in the field of community development and agricultural innovation development education. Bradford (1994) used thematic analysis techniques to examine various channels of writing scientific papers such as journals, books, bulletins, theses, dissertations and conference papers.



Figure 1.1 Content Analysis Infographic Sources

For this study, content analysis sources to achieve the first and second objectives of the study were achieved by using thematic analysis techniques involving six search engine sources. These six research sources are in line with recommendations by Research in International Management using the Harzing.com software website developed since 1990 to track various forms of writing and publication of authoritative scholarly works. In other words, the Harzing.com website uses the term Publish or Perish as a software program that retrieves and analyses academic citations. It uses a variety of data sources to obtain the raw citations, then analyses these and presents the following metrics (Harzing.com, 2021). Based on these recommendations, the study content analysis data contains authoritative sources from the search engines of Crossref Metadata Search, Google Scholar, Scopus, Web of Science (WOS), Microsoft Academic Search, and PubMed.

### Findings and Discussion

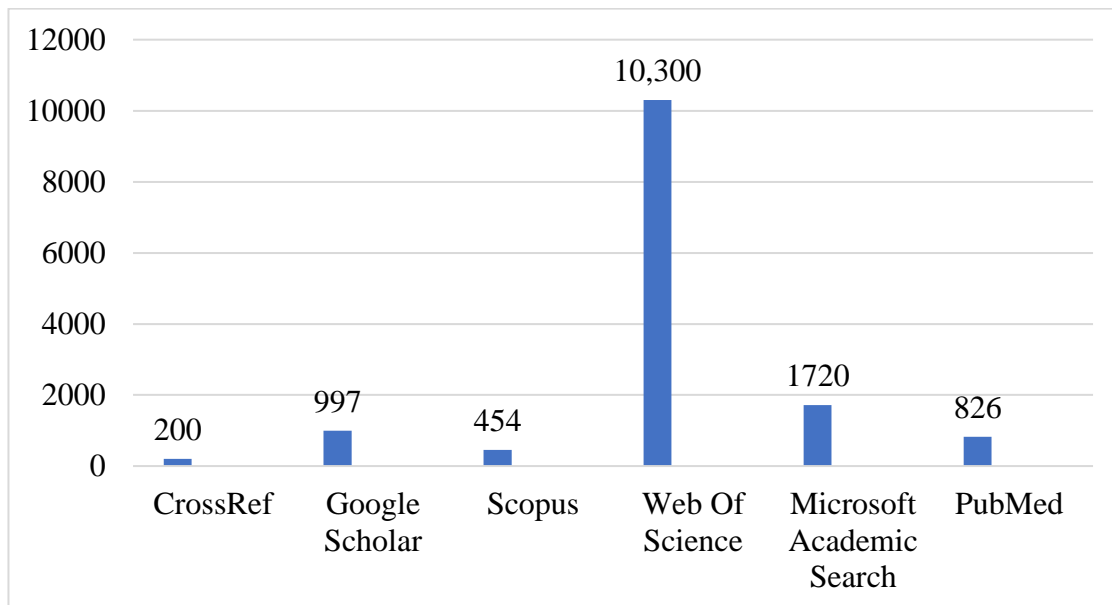
The results of the study presented are based on content analysis data processed through SPSS version 26.0 scientific software for social science researchers. In detail, the results of the study are guided by two main objectives namely, i) to analyze the trends of the study findings on the role and competencies of agricultural development officers in the field of community development, and ii) to identify the role and competencies of agricultural development officers as community developers.

### *Trends of Findings of the Study of the Role and Competence of Agricultural Development Officers*

A total of six authoritative scholarly writing search engines from various sources such as Crossref, Google Scholar, Scopus, Web of Science (WOS), Microsoft Academic Search, Academia and PubMed were rationalized to achieve the first objective of the study.

Figure 1.2 shows the results of the analysis of descriptive test results of literature highlight trends based on six search engines. Findings trends were analyzed based on search engine results publishing scholarly papers on community development themes and sub-themes, which are i) roles; ii) competencies; iii) agricultural development officers; vi) extension agents; and v) community developers. Content analysis of search engines as recommended by Harzing.com (2021) was carried out in May 2021. The results of the trend analysis showed a total of 14, 497 writings in the form of scholarly works identified from various authoritative search engine sources. A literature review trend study showed that the Web of Sciences (WOS) search engine dominated with a total of 10,300 (71.0%) scientific works.

The Microsoft Academic Search ranked second highest with a total of 1,720 (11.86%) scholarly works. This search engine is considered as a competitor to Google Scholar, Web of Science and Scopus. It was developed by Microsoft Research and was relaunched in 2016 as a free search engine for accessing academic publications using semantic search technology, by indexing over 260 million publications and 88 million journal articles (<https://academic.microsoft.com/home>, 2021; Loius, 2014).



$N = 14,497$

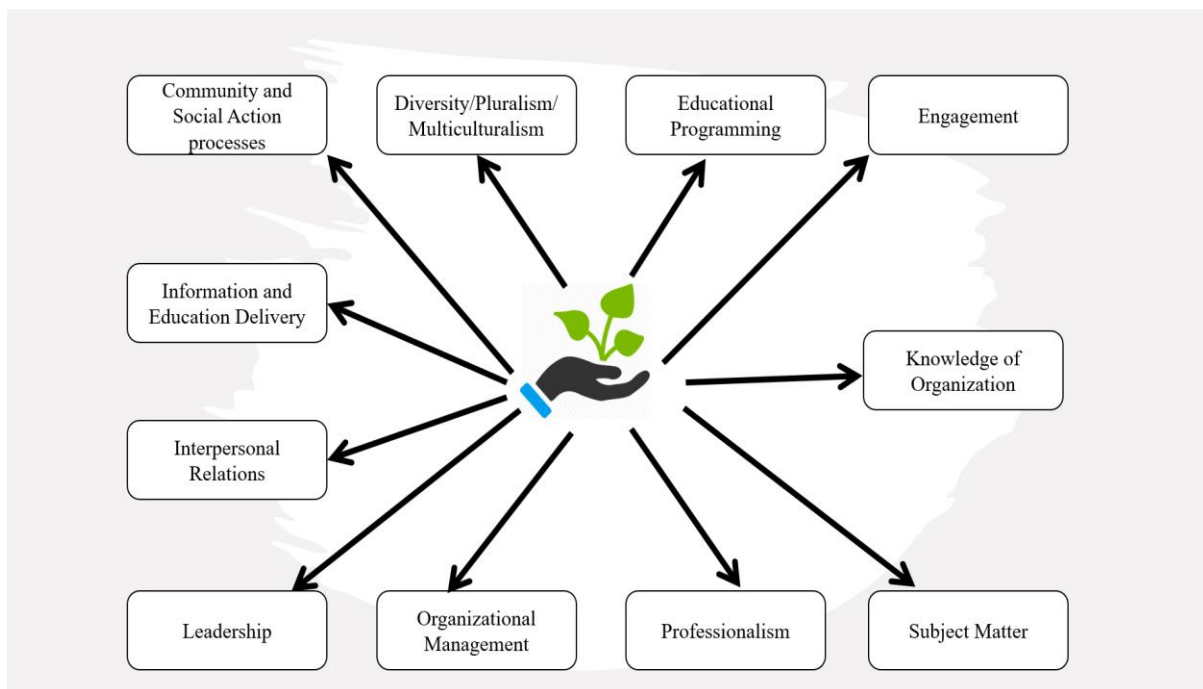
**Figure 1.2 Results of Descriptive Statistics Test Distribution of Agricultural Expansion Agents Literature Highlights Trend by Search Engine**

Followed by the Google Scholar search engine which showed the third highest number of 997 (6.88 %) scholarly works. Google Scholar provides systematic search data to access a variety of disciplines and resources such as articles, theses, books, abstracts, court papers from academics, academic publishers, professional communities, online repositories, and other websites ([scholar.google.com](https://scholar.google.com), 2021).

The Pub Med search engine showed a total of 826 (5.70%) scholarly works. As for the Scopus search engine with Crossref, it showed a total of 454 (3.13%) scientific works and 200 (1.39%) scientific works, respectively. PubMed is a journal search engine on life sciences and biomedicine using the MEDLINE data system developed in 1996 (<https://pubmed.ncbi.nlm.nih.gov/>, 2021). Scopus was launched in November 2004 which brings together over 25,100 titles in various fields such as science, social sciences, literature, humanities, technology and medicine from 5,000 people (<https://www.scopus.com/home.uri>, 2021). Crossref aggregates meta data used by website users from a variety of backgrounds. In addition, Crossref strives to collect and disseminate: from facilitating text mining through license and full-text URLs (<https://search.crossref.org/>, 2021).

### ***The Role and Competence of Agricultural Development Officers as Community Developers***

A total of 11 themes of the role and competencies of agricultural development officers as community developers were identified based on the trend analysis of the first objective findings. These roles and competencies include the ability to i) identify community forms and social action processes; ii) respect the diversity/pluralism and multi-culture of community members; iii) implement development programs appropriate to community demographics; iv) be able to encourage community involvement in development programs; v) have information and the ability to deliver developmental education; vi) establish interpersonal relationships; vii) have knowledge of organization, viii) leadership; ix) organizational management; x) have an attitude of professionalism; and xi) master the field of community development in terms of theory and practical.



**Figure 1.3 Role and Competencies of Agricultural Development Agents as a Community Developer**

Source: Quoted and modified from (Ayres et al., 2005)

The role of agricultural development officers in the context of i) community and social action processes includes the competence to identify demographics, economics, humanitarian services and the environment in order to maintain the social vitality of the community. Agricultural development officers in this aspect should be competent to give priority to appropriate programs to drive community development especially in information planning and delivery (Ayres et al., 2005). Bonye et al (2012) explained that a cooperative farming community development approach will form an effective community development program because it combines knowledge of community theory and practice such as Agricultural Extension, Community Based Extension Agents, Farmers Indigenous Knowledge in Extension Service Delivery, Extension Approaches, Policy on Agricultural Extension, Roles of Major Stakeholders in Agricultural Extension Services and Farmers Perceptions of Agricultural Extension Services.



Diversity/pluralism/multi-culture refers to the competency elements of agricultural development officers related to awareness, commitment and ability to understand the cultural differences, perceptions, expectations, norms, beliefs and values of a community (Ayres et al., 2005). Millar (2004) explains that this role should be strengthened cooperatively together with the farming community as the agricultural sector is driven by developing countries that have a diversity of races, cultures, ethnicities, and beliefs. Issues of poverty, gender equality, and small-scale farming communities are often problems in the agricultural sector. Local knowledge and local wisdom possessed by significant communities are combined so that the sustainability of the agricultural sector can be realized. Extension services by community developers in the agricultural sector should be able to exhibit high sensitivity to the cultural diversity of farming communities, encouraging participation from various ethnic and socio-cultural groups in development activities. In addition, to ensuring the participation of women and farmers from marginal groups as clients in development activities involving the private sector, NGOs, farmers' cooperative groups, and other stakeholders.

The third role played by development officers in the efficiency of implementing educational programs is the ability to plan, design, implement, evaluate and consider the best decisions to improve the client's quality of life (Ayres et al., 2005). There are various approaches in agricultural extension programs specifically to link communication between development officers and farmers. Among the common development models implemented to innovate in agriculture and technology are the Agricultural Knowledge and Information System (AKIS) model, the dependency model (Bennett, 1992), and the innovation system model (Lundvall, 1992). The implementation of such models encourages research and development of sustainable community innovation (Sulaiman et al., 2006).

The role of agricultural development officers in the aspect of engagement requires competence as a community developer to understand and provide for the needs of individuals and communities (Ayres et al., 2005). In development activities, Bonye et al (2011) explained several methods of involvement used by development officers, namely scheme approach, technical change approach, target category approach, functional group approach, institution building approach, training and visit approach, farmer-field-school approach, and farmer-to-farmer extension approach (Benor & Harrison, 1977). Agricultural extension approaches in the context of community development are expected to be able to increase the empowerment of farmers' capacity in decision making that is appropriate to the intended meaning of agricultural development (Jiggins & Rolings, 1982).

Information and educational delivery refers to the role and competence of development officers in mastering the skills of communicating information effectively either orally or in writing, using technological aids and selection of development approaches that enhance innovation recipient behaviour change (Ayres et al., 2005). Farming communities are assumed to have their own distinct values and norms that are different from the bearers of agricultural innovation. Technology-based knowledge transfer is considered the most important development process as it involves the delivery of information and education to adapt agronomic practices appropriate to the socioeconomic conditions of farming communities (Bonye et al., 2011). Using an appropriate approach, message delivery and significant expansion tools in ensuring the effectiveness of expansion activities.

Development officers as community developers should be proficient in computer software to store, access and analyse agricultural innovation information. Information to the farming community is provided through radio broadcasts, websites, and smartphones that are appropriate for the age of the recipient of the innovation, for instance, the client.

The interpersonal relationship forged between the development officer and the client i.e. the farming community is part of the competencies needed to build networks with individuals and groups in order to be more dynamic (Ayres et al., 2005). Farming communities will be able to adapt and try new formulas of agricultural innovation from traditional methods to agricultural modernization based on acceptance of innovators (Jodha, 1990). The weakness of the farming community in the process of making accurate decisions (Ison, 1990) will make it difficult for the innovation process to take place (Spore, 2004) because everyone has different experiences with others. Studies on the role and competencies of development officers in developing countries show that interpersonal relationships based on communication skills as a dominant predictor to the success of agricultural innovation (Issahaku, 2014; Tiraieyari et al., 2010; Wasihun et al., 2013). Issahaku (2014) viewed that quality technical knowledge and personality are very important to convince clients to accept good agricultural practices. In this regard, development agents should be competent in communicating effectively such as knowing the dialect and local language when communicating. The selection of tools for the dissemination of innovation ideas also forms effective interpersonal relationships.

The role of knowledge about organization is a competency related to the ability to understand the history of the organization, the philosophy of community development and the history of the development of knowledge of educational development (Ayres et al., 2005). Expansion is a process of continuous information sharing through training, program participation, human resource management to enable the farming community to be empowered (Bonye et al., 2011). The role of development officers in this aspect is to conduct an evaluation of existing agricultural extension programs (Rodgers et al., 2012; Khalil et al., 2009; Namdar et al., 2010). The services of a development officer as an agent of change include an in-depth understanding of monitoring and evaluation theory, applying qualitative and quantitative techniques, communicating areas of community development in parallel on the conditions and needs of the farming community. Furthermore, fixing the weaknesses and shortcomings of development programs that are thought to be less successful for developing farming communities.

The development officer leadership refers to the ability to positively influence clients and target groups through a role as a carrier of agricultural innovation (Ayres et al., 2005). Typically, the leadership style of an development officer depends on the selection of the extension approach implemented into the farmer group. Leadership development officers have the skills to shape effective social learning processes with clients (Ingevall et al., 2003). Leadership will produce an effective collective action regardless of the social status of the farming community whether owning sufficient assets or otherwise (Pimbert & Wakeford, 2003; CIP-UPWARD, 2003; Pretty, 2002). The leader of the farmer community group as the recipient of the innovation should be led to lead the group discussion to select the appropriate form of innovation. The development officer plays the role of a leading

facilitator, identifies appropriate leadership styles to be practiced, understands the forms of barriers to innovation recipients and is able to structure tasks efficiently during farm visits.

Organizational management skills refer to the ability to organize change/innovation processes, structure, develop systems, monitor community resources, and encourage change in development activities (Ayres et al., 2005). Organizations such as agencies and departments overseen by agricultural development officers may have policies that differ from each other (Muleme, 1994). To convey development education information effectively, agricultural organizations or departments should carry out a vision and mission in line with the government's agenda (Maddy et al., 2002). Clients should be informed of the objectives, vision, mission, and philosophy of the organization so that they get information on how the organization works to help the farming community. The organizations are urged to always give appreciations, rewards, and conducting a conducive working environment in order to make sure that the performance and commitment of development officers are in line with organisational aspirations.

Professionalism describes the competent character of an agricultural development officer as someone who has dominant behaviour in terms of job performance, accountability, transparency, independence, critical thinking, committed to higher education and knows the goals, vision and mission of the organization (Ayres et al., 2005). The level of professionalism of development officers is built from social experience through training sessions and visits with smallholder communities. However, professionalism through competence in using sophisticated agricultural technological innovation tools can only be achieved through formal education and courses organized by organizations (Bunch, 1990). Competent development officers are considered to have knowledge and experience in disseminating agricultural technology ideas and innovations covering agronomic systems, environmental sciences, understanding community development knowledge, mastering client socio-demographics and competitive against global innovation (Cochran et al., 2012; Gibson & Brown, 2003; Maguire, 2012; Melak & Negatu, 2012; Rivera et al., 2009; Swanson & Rajalahti, 2010). To acquire a good level of professionalism, a community or community developer should have a good relationship with the client so that the client appreciates any innovation effort (Maddy et al., 2002). High professionalism is also highlighted through the efforts of development officers who are always at the forefront in seeking new knowledge of agricultural innovation and technology (Terblanche, 2008; Mulder, 2014).

Mastery of development science and community development discipline is a competency that must be possessed by agricultural development officers. In this regard, community development knowledge needs to be applied in development officers and organizations to improve the effectiveness of knowledge delivery (Ayres et al., 2005). To demonstrate good mastery of the field of knowledge, development officers should have a basic knowledge of community development disciplines and approaches, understand agricultural technology well, be able to re-demonstrate to clients and educate communities about environmental change and its relationship to climate change (Bonye et al., 2012). Development officers should also be able to refer to reports and publications appropriate to the development of agro-economic entrepreneurship. Specifically, Radhakrishna (1995) identified some early journals that are often referenced by development officers who play a role in the agricultural development sector such as Journal of Agricultural Education (JAE),

Journal of Agricultural Education, Educational and Psychological Measurement, Journal of Extension, Journal of Teacher Education, and Journal of Applied Psychology. The focus of the journals are agricultural programs, agro-youth organizations, learning through farmers' experience, agricultural development approach methods, agricultural coordinators, adult learning, agricultural development theory, development curriculum development, development education services, research methods (assessment and philosophy), basic and human resources.

### Conclusion

Overall, the study identified trends in findings related to the role and competencies of development officers through six major search engines recommended by Anne-Will Harzing (2020) namely, Crossref, Google Scholar, Scopus, Web of Science (WOS), Microsoft Academic Search, and Pub Med, featuring a total of 14,497 authoritative publications from various sources such as journals, articles, theses, chapters in books, seminars, proceedings, bulletins, and official documents. Through the second objective analysis, a total of 11 roles and competencies of agricultural development officers as community developers were analysed. It related to the characteristic traits that should be played by a development agent who focuses on the goal of community development. Among the roles are as follows; i) identify community forms and social action processes; ii) respect the diversity/pluralism and multi-culture of community members; iii) implement development programs appropriate to community demographics; iv) be able to encourage community involvement in development programs; v) have information and the ability to deliver developmental education; vi) establish interpersonal relationships; vii) have knowledge of organization, viii) leadership; ix) organizational management; x) have an attitude of professionalism; and xi) master the field of community development in terms of theory and practical.

The role and competencies of agricultural development officers especially in the discipline of community development are dynamic. This is because, it involves the relationship between community developers who act as agents of change to clients who receive agricultural and technological innovations, namely the farming community. The two-way relationship between innovators and recipients of innovation through a process of extension education that is communicated to drive change to ensure the quality of life of the farming community. However, it is found that studies focusing on the role and competencies of agricultural development officers as community developers in Malaysia are still limited. Based on that, the most important question is to what extent the community development approach is implemented by agricultural development officers who are involved in developing the farming community in Malaysia? It can be discussed critically by linking extension education approaches without neglecting the area of community development. Such findings, require further research under the scope of the role and competencies of agricultural development through a broader and integrated perspective using theory, practice and community development approaches.

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