

## Analysis of Stakeholders Influencing Smallholder Mango Production in Limpopo Province of South Africa

Tshikolomo, K.A.<sup>1</sup>, Nesamvuni, A.E.<sup>2</sup>, De Bruyn, M.<sup>3</sup>, Van Niekerk, J.A.<sup>4</sup>, Mpandeli, N.S.<sup>5</sup> and Hlophe-Ginindza, N.G.<sup>6</sup>

**Corresponding Author:** K.A. Tshikolomo. Correspondence Email: Tshikolomo@gmail.com

### **ABSTRACT**

*The purpose of this study was to determine the influence of stakeholders on smallholder mango production in Limpopo Province, aiming to increase the effectiveness of this influence. Purposive sampling of the population of 374 smallholder mango producers with a plot size of  $\pm 4.7$ ha was used. Primary data was collected from the smallholder producers using a structured questionnaire designed to include selected variables on stakeholder interactions and influence. Key stakeholders included the Limpopo Department of Agriculture and Rural Development (LDARD), the South African Mango Growers Association (SAMGA), the Agricultural Research Council (ARC) and the National Agriculture Marketing Council (NAMC). The LDARD provided broad support, mainly farm management and marketing information (57%), SAMGA provided production (fertiliser application and spraying) information (86%), ARC provided research information (92%), while NAMC provided market information (59%). Interactions with the producers were mainly through LDARD meetings (11%) and visits (41%), SAMGA meetings (70%) and visits (23%), ARC meetings (12%) and emails (9%), and NAMC meetings (10%) and visits (11%). Lack of transformation and budgetary constraints were the main challenges limiting smallholder mango production. The study is crucial for efficient resource deployment and the maximisation of impact from*

---

<sup>1</sup> Director, Crop Production, Limpopo Department of Agriculture and Rural Development, Private Bag X9487, Polokwane, 0700, South Africa, tshikolomo@gmail.com, ORCID 0000-0003-0181-9416

<sup>2</sup> Associate Professor: Department of Sustainable Food Systems and Development, University of the Free State, P.O. Box 339, Bloemfontein, 9300, South Africa. nesamvunie@gmail.com, ORCID ID 0000-0002-3764-1683.

<sup>3</sup> Lecturer: Department of Sustainable Food Systems and Development, University of the Free State, P.O. Box 339, Bloemfontein, 9300, South Africa. DebruyenMA@ufs.ac.za, ORCID ID 0000-0003-4826-3734.

<sup>4</sup> Vice-Dean: Department of Sustainable Food Systems and Development, University of the Free State, P.O. Box 339, Bloemfontein, 9300, South Africa. [vnickerkja@ufs.ac.za](mailto:vnickerkja@ufs.ac.za), ORCID ID 0000-0001-9842-0641.

<sup>5</sup> Executive Manager, Water Research Commission, Lynwood Manor, Pretoria, 0081, South Africa, [sylvesterm@wrc.org.za](mailto:sylvesterm@wrc.org.za), ORCID 0000-0003-4925-6173

<sup>6</sup> Assistant Research Manager, Water Research Commission, Lynwood Manor, Pretoria, 0081, South Africa, [samkelisiwehg@wrc.org.za](mailto:samkelisiwehg@wrc.org.za), ORCID ID 0000-0003-3084-4549

*development initiatives, especially in our country, which faces severe budgetary constraints and associated austerity measures.*

**Keywords:** Smallholder Mango Producer, Mango Production, Stakeholder, LDARD, SAMGA, ARC, NAMC, Limpopo Province.

## 1. INTRODUCTION

The consumption of fresh fruits is increasing (Steinmetz & Potter, 1996), both locally and globally, and is expected to continue rising as consumers are willing to pay higher prices, especially for out-of-season fresh fruits. Agriculture is the key sector for economic development in most African countries and is highly reliant on production by smallholder farmers (Martey, Etwire, Wiredu & Dogbe, 2014). The statement by Martey *et al.* (2014) affirmed Engel and Salomon (1997), revealed that the agriculture sector is a primary source of income for the rural population and contributes to foreign exchange earnings for African economies. For instance, the agricultural sector contributed approximately 10 percent to South Africa's total export earnings in 2021, valued at \$12.0 billion (ITA, USDC, n.d.).

The climate of South Africa encompasses both subtropical and Mediterranean climates, primarily influenced by large-scale seasonal atmospheric patterns, as well as the cool Atlantic Ocean and warm Indian Ocean (Daron, 2014). This diversity of climate favours the production of a wide range of agricultural products, including mango and other subtropical fruits. South Africa has a dual agricultural economy, characterised by both well-developed commercial farming and subsistence-based production in rural areas. In line with the assertion by Martey *et al.* (2014), agriculture is a significant economic activity in rural areas of South Africa.

Limpopo Province is one of South Africa's richest agricultural areas. The province is endowed with abundant agricultural resources, including rich soils and a favourable climate, and is one of the country's prime agricultural regions, noted for the production of various commodities, mostly subtropical (including mango) and citrus fruits, vegetables, and livestock. Approximately 2.7% of Limpopo's value-added Gross Domestic Product is derived from agriculture, with around 1.1% of the province's population employed in this sector.

Farmers, especially smallholder farmers, face multiple challenges (Lawrence, Barr, & Haylor, 1999; Adekunle & Fatunbi, 2012). As was argued by Lawrence *et al.* (1999), the involvement of pertinent stakeholders in farming has the potential to address the multiple challenges faced by smallholder farmers. A multi-stakeholder approach is essential for mapping out the challenges and understanding, as well as articulating, appropriate options for farmers (Odhiambo, Nyangito, & Nzuma, 2004). Stakeholders, including the target group and partners (Zimmermann & Maennling, 2007), are influential in the implementation of farming activities. As affirmed by Nesamvuni and Tshikolomo (2014), there should be considerable interaction between farmers and various stakeholders, which include public organisations, private companies, and non-profit organisations.

Acknowledging the essence of stakeholder participation in farming, it was revealed that farming involves multiple stakeholders throughout the entire value chain, from production to the end (Karim, Rahman, Berawi, & Jaarpar, 2007). The statement by Karim *et al.* (2007) was supported by Dodds (2015), who indicated that since the 1990s, stakeholders have become an integral part of many organisations and that each of them (the stakeholders) brings vital capability, knowledge and skills, thereby building synergies to co-create something new and show impact.

Knowledge and understanding of stakeholders and their influence on farming requires a comprehensive stakeholder analysis. Analysis is essential for the effective stakeholder management process because it enables organisational teams to understand the stakeholder environment and develop appropriate engagement strategies (Mok & Shen, 2016). Different types of stakeholders may need different strategies (Nguyen, Chileshe, Rameezdeen, & Wood, 2020). A comprehensive stakeholder analysis aims to assess and understand the involvement of stakeholders in an organisation, determining their relevance (Tampio, Haapasalo, & Ali, 2022) and their influence on decision-making and organisational performance. As alluded to by Berlin, Bligard, and Chafi (2022), the importance of stakeholder analysis in gaining their perceptions and inputs, and ultimately ensuring their acceptance of future solutions, cannot be overemphasised.

This paper aims to provide pertinent information for enhancing the effectiveness of stakeholders influencing smallholder mango producers in the Limpopo Province of South Africa.

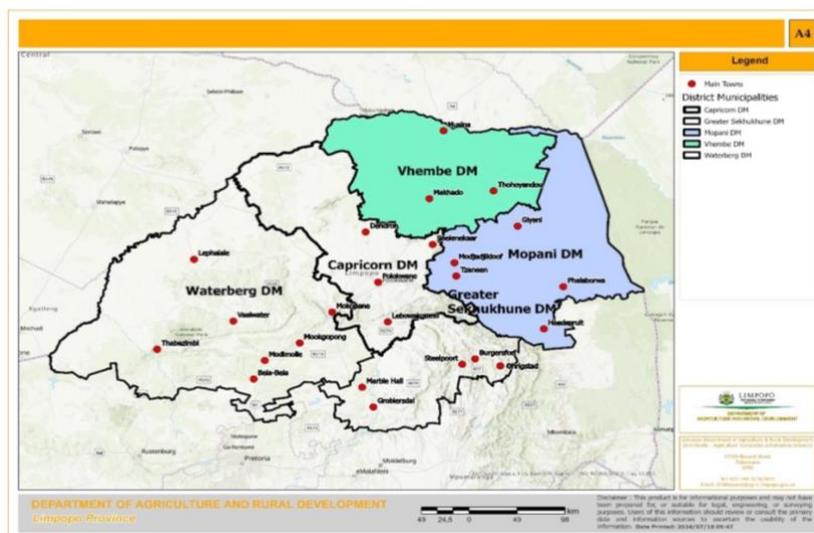
## 2. DEFINITION OF THE PROBLEM

There is an increasing expectation that projects should demonstrate clear impacts (Huzzard, 2021), and the same can be said for the smallholder mango projects in Limpopo Province. As stated by Huzzard (2021), many argue that impact can be leveraged by stakeholder engagement. Effective stakeholder engagement in the smallholder mango industry requires clear responses to key questions related to the stakeholders, which include: Who are the stakeholders? What are their roles in smallholder mango production? How do they interact with the mango producers? What is their contribution to the smallholder mango industry? What are their areas of leadership (if any)? What is their knowledge base? This paper addresses these questions based on a focused study on smallholder mango producers conducted in the Limpopo Province, South Africa.

## 3. RESEARCH METHODOLOGY

### 3.1. Study Area

The study was conducted in the Limpopo Province of South Africa, focusing on smallholder farmers who produce mangoes on communal lands, specifically in the Mopani and Vhembe Districts (Figure 1). As indicated by DALRRD (2020), most mango plantations in South Africa are located in Limpopo Province, with the majority concentrated in the Soutpansberg (Vhembe District) and the Letaba and Hoedspruit (Mopani District) areas.



**FIGURE 1: Map of Limpopo Province Showing the Location of Vhembe (Green) and Mopani (Blue) Districts that Constituted the Focus Area of the Study (Source: LDARD, 2024).**

As revealed by SAMGA (2023), mango plantings in the Limpopo Province covered an area of 4,277 ha, comprising 75 percent of the total plantings in South Africa. Plot sizes of smallholder mango producers were estimated at 4.7ha (Materechera & Scholes, 2021).

### **3.2. Sampling Procedures**

The population for a study refers to the group about whom the researcher wants to conclude (Babbie & Mouton, 2010). As stated by Melville and Goddard (1996), a population is any group that is the subject of research interest. The study population consisted of 374 smallholder mango producers in Vhembe and Mopani Districts of Limpopo Province. According to Welman, Kruger, and Mitchell (2005), a sampling frame is a complete list of units of analysis, *where* each unit is mentioned only once. The units of analysis for the study were selected through purposive sampling, a sampling method in which researchers rely on their experience, ingenuity, and previous research findings to deliberately obtain units of analysis that are regarded as representative of the relevant population (Welman *et al.*, 2005). For this study, all 374 smallholder mango producers listed in the researcher's database were interviewed.

### **3.3. Data Collection**

Primary data was collected for this study using a semi-structured questionnaire to interview individual smallholder mango producers. The questionnaire was designed to capture information relating to issues that included stakeholder identification, roles, types of interactions, level of importance and contributions made. The questionnaire primarily consisted of closed-ended questions that collected quantitative data. Before conducting a large-scale administration of the instrument, a pre-testing session was conducted to determine instrument validity. After validating the instrument, the researcher personally conducted interviews with 21 smallholder producers to gauge the exercise, and the remaining interviews were conducted by properly trained enumerators. Secondary data were collected through a literature review that focused on relevant books (or sections thereof), journal articles, reports, and reviews of other relevant documents.

### **3.4. Data Analysis**

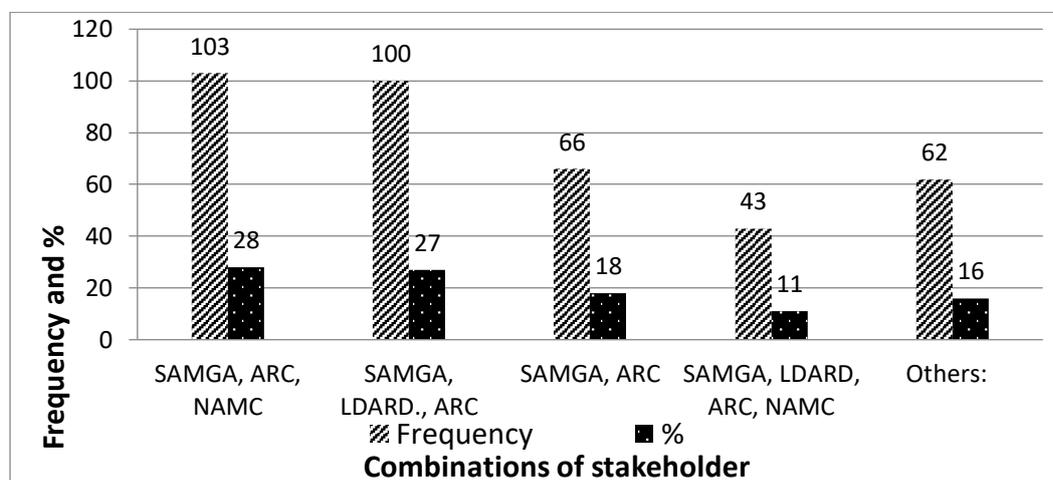
The data were analysed using the Statistical Package for the Social Sciences (SPSS), conducted by Quantemna Research Specialists. Findings were presented in the form of frequency tables and graphs that were discussed based on objective interpretations.

The research collected and analysed quantitative data and is referred to as a quantitative study (Hurmerinta-Peltomaki & Nummela, 2006; Leedy & Ormrod, 2010). A quantitative research approach involves the objective collection and evaluation of numerical information to interpret experiences and concepts (Kurten, Brimmel, Klein, & Hutter, 2022), in contrast to a qualitative research approach, which involves the subjective collection and evaluation of non-numerical data to understand ideas, perceptions, and events.

## 4. RESULTS AND DISCUSSION

### 4.1. Identification of Stakeholders in Smallholder Mango Production

Stakeholders, including target groups and partners, often play a significant role in the performance of the fruit industry. The establishment and implementation of any project requires active stakeholders to provide human and social capital (Zimmermann & Maennling, 2007). The first task in the stakeholder analysis was to identify the stakeholders themselves. The first step in identifying stakeholders was to develop a preliminary list of all potential stakeholders, a process that required some brainstorming (Morris & Biddache, 2012). According to Vos and Achterkamp (2006), identifying stakeholders could be regarded as drawing a line between parties involved and parties not involved.



**FIGURE 2: Stakeholders Identified by Smallholder Mango Producers in Limpopo Province**

Stakeholder identification and categorisation are complex issues that can be analysed from multiple perspectives (Wegrzyn & Wojewnik-Filipkowska, 2022). The identification of stakeholders was based on perceptions of the smallholder mango producers. The process

included value chain analysis to consider all stakeholders involved in the mango value chain from production to consumption (Adekunle & Fatunbi, 2012; Stevens & Letty, 2014).

Combinations of names of stakeholders reportedly involved in smallholder mango production as perceived by the respondents were presented (Figure 2). Four stakeholders were considered important for the smallholder mango industry: the Limpopo Department of Agriculture and Rural Development (LDARD), the South African Mango Growers Association (SAMGA), the Agricultural Research Council (ARC), and the National Agricultural Marketing Council (NAMC).

Twenty-eight percent (28%) of the respondents regarded a combination of SAMGA, ARC, and NAMC as important stakeholders for the smallholder mango industry, while 27% opted for a combination of SAMGA, LDARD, and ARC. Eighteen percent (18%) of the respondents reported a combination of SAMGA and ARC as important stakeholders, while one in ten (11%) respondents felt that a combination of SAMGA, LDARD, ARC and NAMC was important stakeholders for their industry.

#### 4.2. Stakeholder Roles

According to MacArthur (1997), the roles of stakeholders vary depending on the stakeholder's advocacy. Stakeholder engagement has grown into a widely used construct in business and society research (Kujala *et al.*, 2022) and is important for understanding their (stakeholder) roles.

**TABLE 1: Roles of Stakeholders Identified by Smallholder Mango Producers in Limpopo Province**

Stakeholder	Role	Frequency	%
ARC	Provide information on research; conduct study groups	345	92
SAMGA	Provide recent information on fertilisation and spraying	320	86
NAMC	Provide market information and learning materials	223	59
LDARD	Provide information on marketing and on how to run a farm	215	57

All the respondents regarded stakeholders as having an important role in providing information. The importance of information was perhaps affirmed by Mittal and Mehar (2015), who suggested that empowering smallholder mango producers begins with access to information. Agricultural productivity and yield increase can be enhanced through the sharing of appropriate information (Opara, 2008) with smallholder mango producers.

Specifically, nine in ten (92%) of respondents reported that the ARC provided research information, 86% regarded SAMGA an important source of production (specifically fertiliser application and spraying) information, six in ten (59%) felt that NAMC provided market information with almost the same number (57%) of respondents associating LDARD with broad value chain support (farm management and marketing) information (Table 1).

#### 4.3. Interactions Between Smallholder Mango Producers and Stakeholders in Limpopo Province

The types of interactions between smallholder mango producers and stakeholders, as well as the frequency of these interactions, are crucial for the successful production of mangoes by smallholder farmers.

**TABLE 2: Interactions Between Smallholder Mango Producers and Stakeholders in Limpopo Province**

Stakeholder	Type of interactions	Frequency of interactions	Frequency	%
LDARD	Meetings	Monthly	42	11
	Visits	Bi-monthly	152	41
SAMGA	Meetings	Bi-monthly	262	70
	Visits	Bi-monthly	85	23
ARC	Meetings	Bi-Monthly	46	12
	Emails	Bi-Monthly	35	9
NAMC	Meetings	Other	39	10
	Visits	Other	40	11

Except for the ARC, which interacted through meetings (12%) and emails (9%), the rest of the stakeholders interacted primarily through meetings and visits. LDARD held monthly meetings

(11%) and bi-monthly visits (41%), while SAMGA had bi-monthly meetings (70%) and bi-monthly visits (23%). NAMC had meetings at various frequencies (10%) and visits (11%). Generally, meetings and visits were common types of interactions, with the frequency ranging from monthly to bi-monthly (Table 2).

#### 4.4. Stakeholder Contribution to the Smallholder Mango Industry

Stakeholder contributions to the smallholder mango industry can be valuable for producers to achieve success. Meaningful contributions should benefit one or more activities within the value chains of the smallholder mango industry.

**TABLE 3: Stakeholder Contributions to Smallholder Mango Industry in the Limpopo Province**

Stakeholder	Contribution	Frequency	%
ARC	Conduct study groups and training	333	89
LDARD	Daily visits	240	64
SAMGA	Conduct study groups	211	56
NAMC	Provide learning material	158	42

The stakeholders contributed to the smallholder mango industry in various ways (Table 3). The main contribution of the ARC was in conducting study groups and training (89% of respondents), which provided suitable platforms for sharing new research information and technologies. While SAMGA also conducted study groups (56%), likely for sharing production information, the NAMC was acknowledged for providing learning materials to smallholder mango producers (42%) related to their marketing mandate. The LDARD was noted for conducting daily visits to smallholder producers, which were likely aimed at addressing various issues within the mango value chain.

#### 4.5. Stakeholder Area of Leadership in the Smallholder Mango Industry in Limpopo Province

The level of influence of stakeholders in the value chains of the smallholder mango industry is determined by their area of leadership. The main areas of stakeholder leadership in the smallholder mango industry in Limpopo Province are depicted in Table 4. The ARC and NAMC were perceived by 35% of smallholder mango producers to lead in research and

marketing, respectively. Based on the prominent roles played by these stakeholder organisations in these areas, it would be expected that more respondents would have reported them as such.

**TABLE 4: Stakeholder Area of Leadership in the Smallholder Mango Industry in Limpopo Province**

Stakeholder	Area of leadership	Frequency	%
ARC	Research	131	35
NAMC	Marketing	131	35
SAMGA	Production	118	32
LDARD	Training	34	9

The relatively few respondents (35%) perceiving the ARC and NAMC as leaders in research and marketing, respectively, may be due to the stakeholder organisations being national entities with limited local footprints. The SAMGA was viewed by three in ten (32%) smallholder mango producers as leaders in production issues, while the LDARD was mentioned by only one in ten (9%) respondents as the leader in providing training.

#### **4.6. Knowledge Base of Stakeholders in Smallholder Mango Production in Limpopo Province**

In various interactions, it is expected that each stakeholder will contribute according to their knowledge base (Kennon, Howden, & Hartley, 2009). As opined by Kennon *et al.* (2009), stakeholders should possess knowledge of the sector in which they participate and should be consulted and involved in decision-making. According to Williams, Vo, Samset and Edkins (2019), consultation and involvement illustrate recognition of stakeholders. Understanding of the knowledge base of stakeholders in the smallholder mango industry in Limpopo Province was therefore deemed essential.

As indicated in Table 5, approximately nine in ten (91%) of the smallholder mango producers perceived the ARC to be the foundation for research knowledge; hence, the stakeholder organisation would be expected to be a strong leader in the mango industry in terms of research. The SAMGA was noted to be a knowledge base for study groups (48%) and information sharing (32%), while the NAMC remained associated with marketing knowledge (11%).

**TABLE 5: Knowledge Base of Stakeholders in Smallholder Mango Industry in Limpopo Province**

Stakeholder	Knowledge base	Frequency	%
ARC	Research	342	91
SAMGA	Knowledge of study groups	179	48
	Share information	118	32
NAMC	Marketing	40	11
LDARD	Provide skills in farming	6	2

The knowledge of LDARD remained less specific, with only 2% of respondents associating the stakeholder organisation with farming skills. This situation probably stems from the fact that the Department is broadly based in terms of knowledge, as it employs teams that cover most aspects of the mango fruit value chain (e.g., research, production, and agribusiness) at less specialised levels.

#### 4.7. Challenges Experienced by Smallholder Mango Producers When Interacting with Stakeholders in Limpopo Province

It is essential to understand the challenges faced by smallholder mango producers when interacting with stakeholders, as these need to be addressed for improved smallholder mango production to be realised.

**TABLE 6: Challenges Experienced by Smallholder Mango Producers Associated with Stakeholders in Limpopo Province**

Stakeholder	Challenge	Frequency	%
SAMGA	Transformation	357	95
ARC	Budget	308	82
NAMC	Budget	135	56
LDARD	Quality of extension officers	36	10

The main challenge reported by smallholder mango producers that was associated with SAMGA was transformation (probably lack thereof), with 95% of the respondents having mentioned it. Budgetary constraints were a major challenge faced by mango producers

associated with the ARC (82%) and NAMC (56%). Fewer respondents (10%) mentioned challenges associated with the LDARD, and these were primarily related to the quality of extension services (Table 6). The adverse effects of these challenges were likely exacerbated by the perceived lack of feedback from the stakeholders. As noted in the study, only one in five (20%) stakeholders were reported to have provided feedback, while the rest reportedly did not.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The smallholder mango industry in Limpopo Province had numerous stakeholders that interacted with and influenced mango producers. The stakeholders identified as key to the success of smallholder mango production in the study area were: LDARD, SAMGA, ARC, and the NAMC. The main role of the ARC was research and study groups (92% of respondents), while that of SAMGA was production information, mainly focusing on fertiliser application and spraying (86%). NAMC was responsible for marketing information and learning materials (59%). The LDARD was less specialised and provided value chain support with a focus on farm management and marketing (57%). Meetings and visits occurred at various frequencies, dominating the types of interactions. Associated with stakeholder roles, their contributions were reported to include study groups (ARC-89%; SAMGA-56%), daily visits by LDARD (64%), and the provision of learning materials by SAMC (42%), likely for marketing information. The area of leadership was closely tied to the knowledge base, primarily encompassing research (ARC), marketing (NAMC), production issues (SAMGA), and comprehensive value chain support (LDARD).

The nature of support provided by each stakeholder was unique and could address different aspects of the mango value chain, thereby presenting an opportunity for a more effective mango industry if properly coordinated.

It is therefore recommended that strategies be developed to strengthen the contributions of each stakeholder to the smallholder mango industry. Such an achievement could be made by strengthening the coordination of support from stakeholders. The LDARD should lead such coordination and focus on bringing each stakeholder to the right point in the mango fruit production cycle to support the correct aspect of the value chain. Stakeholders should complement each other, rather than competing, and this is key to the efficient use of resources and addressing challenges such as budget constraints.

## 6. ACKNOWLEDGEMENT

The authors would like to appreciate the Water Research Commission (WRC) for the funding of the study.

## REFERENCES

- ADEKUNLE, A.A. & FATUNBI, F.O., 2012. Approaches for setting-up multi-stakeholder platforms for agriculture research and development. *World Appl. Sci.*, 16(7): 981-988.
- BABBIE, E. & MOUTON, J., 2010. *The practice of social research*. Cape Town: Oxford University Press.
- BERLIN, C., BLIGARD, L.O., CHAFI, M.B. & ERIKSSON, S., 2022. Development of a stakeholder identification and analysis method for human factors integration in work system design interventions – Change agent infrastructure. *Hum. Factors Man.*, 32: 151–170.
- DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT (DALRRD)., 2020. *A profile of the South African Mango Market Value Chain*. Available from <http://webapps1.daff.gov.za/AmisAdmin/upload/Mango%20Market%20Value%20Chain%20Profile%202020.pdf>
- DARON, J.D., 2014. *Regional Climate Messages: Southern Africa*. Scientific report from the CARIAA Adaptation at Scale in Semi-Arid Regions (ASSAR) Project, December 2014. Available from <https://idl-bnc-idrc.dspacedirect.org/bitstreams/960d63ae-cbc0-4197-84a4-08575b9c9a18/download>
- DODDS, F., 2015. *Multi-stakeholder partnerships: Making them work for the Post-2015 Development Agenda*. Global Research Institute. University of North Carolina.
- ENGEL, P.G.H. & SALOMON, M.L., 1997. *Facilitating innovation for development: A RAAKS resource box*. Amsterdam: Royal Tropical Institute (KIT).
- HURMERINTA-PELTOMAKI, L. & NUMMELA, N., 2006. mixed methods in international business research: A value-added Perspective. *Manag. Int. Rev.*, 46(4): 439-459.

- HUZZARD, T., 2021. Achieving impact: Exploring the challenge of stakeholder engagement. *Eur. J. Work Org. Psychol.*, 30(3): 379–389.
- KARIM, S.B.A., RAHMAN, H.A., MOH ALI BERAWI, M.A. & JAAPAR, A., 2007. A Review on the Issues and Strategies of Stakeholder Management in the Construction Industry. In *Management in Construction and Researchers Association (MICRA), Meetings and Conference*, 28-29 August, Shah Alam, Selangor, Malaysia.
- KENNON, K., HOWDEN, P. & HARTELY, M., 2009. Who really matters? A stakeholder analysis tool. *Ext. Farming Sys.*, 5(2): 9-12.
- KUJALA, J., SACHS, S., LEINONEN, H., HEIKKINEN, A. & LAUDE, D., 2022. Stakeholder engagement: Past, present, and future. *Business & Society.*, 61(5): 1136-1196.
- KURTEN, S., BRIMMEL, N., KLEIN, K. & HUTTER, K., 2022. Nature and extent of quantitative research in social work journals: A systematic review from 2016 to 2020. *Br. J. Soc. Work.*, 52(4): 2008–2023.
- LAWRENCE, A., BARR, J. & HAYLOR, G., 1999. *Stakeholder approaches to planning participatory research by multi-institutional groups*. Agricultural research & extension network (AgREN). Paper no. 91.
- LEEDY, P.D. & ORMROD, J.E., 2010. *Practical research, planning and design*. 9<sup>th</sup> ed. New Jersey: Prentice Hall.
- MACARTHUR, J., 1997. Stakeholder analysis in project planning: Origins, applications and refinements of the method. *Proj. Apprais.*, 12(4): 251-265.
- MARTEY, E., ETWIRE, P.M., WIREDU, A.N. & DOGBE, W., 2014. Factors influencing willingness to participate in multi-stakeholder platform by smallholder SFSHE in Northern Ghana: Implications for research and development. *Agric. Food Econ.*, 2(11).
- MATERECHERA, F. & SCHOLE, M.C., 2021. Characterization of farming systems using land as a driver of production and sustainability in Vhembe District, Limpopo, South Africa. *Agric. Sci.*, 12(11): 1352-1373.

- MELVILLE, S. & GODDARD, W., 1996. *Research methodology*. Cape Town: Juta and Co.
- MOK, M.K.Y. & SHEN, G.Q., 2016. A network-theory based model for stakeholder analysis in major construction projects. *Procedia Eng.*, 164: 292-298. doi: 10.1016/j.proeng.2016.11.622.
- MORRIS, J. & BADDACHE, F., 2012. *Back to basics: How to make stakeholder engagement meaningful for your company*. Europe: BSR.
- NESAMVUNI, A.E. & TSHIKOLOMO, K.A., 2014. Effective collaboration model for agricultural research and development in Limpopo Province of South Africa. *J. Public Adm.*, 149(4).
- NGUYEN, T.H.D., CHILESHE, N., RAMEEZDEEN, R. & WOOD, A., 2020. Stakeholder influence strategies in construction projects. *Int. J. Manag. Proj. Bus.*, 13(1): 47-65. doi: 10.1108/IJMPB-05-2018-0093.
- ODHIAMBO, W., NYANGITO, H.O. & NZUMA, J.M., 2004. *Sources and determinants of agricultural growth and productivity in Kenya*. Kenya Institute for Public Research and Analysis. KIPPRA discussion paper No. 34.
- SOUTH AFRICAN MANGO GROWERS ASSOCIATION (SAMGA)., 2023. *SAMGA Industry Tree Census*. Tzaneem: SAMGA.
- STEVENS, J.B. & LETTY, B., 2014. Understanding the dynamics of multi-stakeholder innovation systems and the opportunities for joint learning by small scale farmers. *S. Afri. J. Agric. Ext.*, 42(2): 24–38.
- STEINMETZ, K.A. & POTTER, J.D., 1996. Vegetables, Fruit, and Cancer Prevention: A Review. *J. Am. Diet. Assoc.*, 96(10): 1027-1039.
- TAMPIO, K., HAAPASALO, H. & ALI, F., 2022. Stakeholder analysis and landscape in a hospital project: Elements and implications for value creation. *Int J Manag Proj Bus.*, 15(8): 48-76.
- TSHIKOLOMO, K.A., NESAMVUNI, A.E., WALKER, S. & STROEBEL, A., 2012. Water manager perceptions of stakeholder participation and influence on water management

decisions in Limpopo and Levubu-Letaba Water Management Areas of South Africa.  
*Am. Int. J. Contemp. Res.*, 2(9): 26-37.

THE INTERNATIONAL TRADE ADMINISTRATION & U.S. DEPARTMENT OF  
COMMERCE (ITA & USDC)., n.d. *South Africa Country Commercial Guide. 1401  
Constitution*. Washington, DC.

VOS, J.F.J. & ACHTERKAMP, M.C., 2006. Stakeholder identification in innovation projects  
– going beyond classification. *Eur J Innov Manag.*, 9(2): 161-178.

WEGRZYN, J. & WOJEWNIK-FILIPKOWSKA, A., 2022. Stakeholder analysis and their  
attitude towards PPP success. *Sustain.*, 14(3): 1570.

WELMAN, C., KRUGER, F. & MITCHELL, B., 2005. *Research methodology*. 3<sup>rd</sup> edn.  
Durban: Oxford University Press.

WILLIAMS, T., VO, H., SAMSET, K. & EDKINS, A., 2019. The front-end of projects: A  
systematic literature review and structuring. *Prod Plan Control.*, 30(14): 1137- 1169.

ZIMMERMANN, A. & MAENNLING, C., 2007. *Mainstreaming participation. Multiple  
Management: Tools for Stakeholder Analysis*. Deutsche: Federal Ministry for Economic  
Cooperation and Development.