

# Capabilities of Government Co-operative Supporting Organisations in Dissemination of Innovations to Primary Co-operative Societies in Tanzania

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## Abstract

**Purpose:** This paper assesses the capabilities of GCSOs in dissemination of innovations to primary co-operative societies (PCSos) in Tanzania.

**Design/Methodology:** The study adopted a case study research design whereby five cases were picked. Primary data were collected using key informants (KIs) interviews, focus group discussions (FGDs), documentary review and direct observation. Documented data were analysed using content analysis. The Atlas.ti computer software was used in analysing data from KIs and FGDs.

**Findings:** The study revealed that most GCSOs have important resources but were unutilised for innovation activities. There were also lack of incentives to support innovation activities amongst GCSOs executives and personnel and lack of formal and comprehensive systems to reward innovation activities. Moreover, the study established weak innovations progression from lower node of innovation chains to higher ones. This scenario was coupled with neither institutionalised nor user-oriented approaches regarding innovations dissemination. The study recommends that GCSOs executives should work to mobilise more internal resources to enable more innovations dissemination activities. They should also work to strengthen their innovation value chains by ensuring resources commitment and work to ensure deliberate inclusive efforts in engaging innovations users (PCSos) at all stages of the innovation chain activities.

**Limitations:** The study covered GCSOs only as they have been receiving direct government resources to support among other things innovation activities unlike other member-based and private organisations operating in Tanzania. Similarly, the study captured the GCSOs capabilities aspects within the key innovation value chain processes only.

**Originality/value:** The paper assessed GCSOs capabilities in innovations dissemination and proposes strategic measures necessary to ensure more innovations dissemination to end-users.

**Keywords:** Capabilities, Dissemination, Government Co-operative Supporting Organisations, Innovations, Primary Co-operative Societies

## 1.0 Introduction

Co-operative societies are people-centred enterprises owned, controlled and run by and for their members to realise their common economic, social, and cultural needs and aspirations (CICOPA, 2017). Co-operatives play a great role in poverty reduction (FAO, 2012; Münkner, 2012). Over one billion people around the world are co-operative members or clients whereby the co-operative sector employs over 100 million people all over the world (UNDESA, 2014). In many post-colonial African countries, co-operatives have formed a major part of the development strategies for most of the rural and urban poor (Sizya, 2001). In Sub Saharan African countries co-operative development has generally traversed three main eras; the colonial era, the era of state control and that of liberalization. The first era (pre-independence era i.e. before 1961), in Tanzania, witnessed the growth of co-operatives which were formed from the initiatives of the members and that maintained their autonomy and practiced the principle of self-help. The second era (1961 to 1990s) involved the growth of co-operatives under state and party directives as was typically the case in Tanzania, Zambia and Ghana making them operate as instruments of the state for implementing government socio-economic policies. Since co-operatives were engulfed into state politics, they diverged from their core activities and principles, which in turn led to their collapse (Wanyama *et al.*, 2009).

The third era (1990s to date) is that of economic liberalisation which resulted from globalisation forces. In facilitating the promotion, establishment, and development of competitive member-owned co-operatives in this era, the government of Tanzania reformed its policies and legislation regarding co-operatives (Mlowe *et al.*, 2007). For instance, the first Co-operatives Development Policy (CDP) which was put in place in 1997 was later replaced by the new CDP in 2002 while in 2003 the 1991 Co-operative Societies Act was revisited by the Parliament to come up with new Co-operative Societies Act of 2003 which was later replaced by the current Co-operative Societies Act of 2013. Among other amendments, the 2013 Act enabled the formation of the Tanzania Co-operative Development Commission (TCDC), an organisation solely responsible for overseeing the management and operations of co-operatives in the country.

All these were the government efforts to empower co-operatives and de-link itself from the direct controlling of co-operatives. Following its withdrawal from direct control of co-operatives, the government's role became that of facilitating capacity building and regulation (policy and legal frameworks) of co-operatives (URT, 2006). Since then, most of the capacity building activities have been ceded to the key co-operatives supporting organisations; the institutions responsible for facilitating co-operatives in terms of innovations creation and dissemination, education and training, and marketing, among other functions. The key Government Co-operatives Supporting Organisations (GCSOs) include Moshi Co-operative University (MoCU), TCDC, Co-operative Audit and Supervision Corporation (COASCO), the Agriculture Research Institutes (ARIs), Small Industries Development Organisation (SIDO), and Vocational Education and Training Authority (VETA).

Despite the efforts undertaken by the government in empowering GCSOs, most Primary Co-operative Societies (PCSos) in the country have continued to be crippled with the same challenges that were thought to be addressed by the implemented transformations. Such challenges include inaccessibility to various useful innovations (Njau *et al.*, 2019), inability to compete in a liberalised market economy, poor management, corruption, inadequate working capital, insufficient co-operative education and training among others (Develtere *et al.*, 2008; Msonganzila, 2013; ICA, 2013). Usually, the non-performance of PCSos could be due to factors within themselves, or attributes on the side of the GCSOs or both. Nevertheless, the focus of this study lies

on the GCSOs as they have been provided with some resources from the government. This, in turn, has questioned the GCSOs capabilities (defined as a measure of the GCSOs ability) in terms of their resources, processes and values necessary for facilitating capacity building (including innovations dissemination) to PCSOs.

This study adopted the three key dimensions for gauging organisational capabilities from Christensen (1997) that include resources (financial, human resources, etc), processes (approaches used) and values (prioritising and making innovations decision). Such dimensions are important aspects for enhancing innovations dissemination from GCSOs to PCSOs. Innovations dissemination is an important aspect of the innovation value chain. It refers to the manner of communication of evidence-based innovation practices to potential implementers to produce effective results (Dearing, 2008). Empirical studies have demonstrated that efficient innovations creation, dissemination and adoption can address many challenges currently facing co-operatives (ILO, 2001; World Bank, 2012; ICA, 2013). Co-operatives innovation is therefore considered to be a significant aspect for addressing the challenges facing co-operative development today.

According to Osborne, (1998) the innovation concept has over 20 different definitions. Appropriate for the present study, is the definition of innovation by the World Bank (2006) as the process by which individuals or organisations master and implement the design and production of goods and services that are new to them, irrespective of whether they are new to their competitors, their country, or the world. This study nonetheless adopts a modified version by defining innovation as the practice by which GCSOs master and implement the creation of goods and services that are new to them (including changes in an old or existing way of doing things), irrespective of whether they are new to their competitors, their country, or the world, which are intentionally introduced and directed at improving PCSOs performance. As pointed earlier in this paper, there has been a significant number of GCSOs in Tanzania. Such GCSOs have continued to attract the government's resources in terms of manpower and financing targeting at among other activities enabling innovations dissemination to PCSOs. To become competitive, PCSOs are obliged to devise and utilise various innovations in their day to day operations. Although this responsibility lies upon PCSOs themselves, so far much of the needed innovations are anticipated to be disseminated from GCSOs. This is due to the fact that most PCSOs lack capable personnel and financial resources to innovate (URT, 2006; DFID, 2014).

In addressing this shortfall, several GCSOs including MoCU, TCDC, TaCRI, SIDO, and VETA have been established by the government of Tanzania. Most of these organisations have continued to attract resources (capacity building) from the government such as skilled manpower, financing and others to meet operational costs, staff salaries, infrastructural demands and implementation of research agenda targeting at facilitating PCSOs in areas of innovations creation and dissemination, marketing, credit, education and training, etc. Despite the significant number of GCSOs in Tanzania and the continued government's capacity building to such GCSOs, few innovations are disseminating from them to PCSOs (URT, 2006; World Bank, 2012; Gracia-Murillo and Vasques, 2012; Njau *et al.*, 2019). Many innovations such as improved practices, new/improved crop varieties, appropriate equipments, financial models, post-harvest technologies, ICTs, membership and financial management systems among others are yet to be disseminated to most targeted users (URT, 2013).

This study questioned the GCSOs capability in dissemination of innovations results to PCSOs. It hypothesises that GCSOs are either incapable in terms of resources (innovation personnel, facilities, technology, financing), or values (prioritising and making innovations decision) or processes (ineffective in innovations dissemination approaches) making many innovations remain unknown to the targeted users. The study thus investigates the extent to which GCSOs are able to commit various resources to facilitate innovations dissemination to PCSOs, establish innovations that

have been disseminated to PCSOs by GCSOs in 10 years period (2007-2017) and analyse the dissemination approaches used by various GCSOs in enhancing dissemination of innovations to PCSOs in the study areas.

### 1.1 Theoretical Framework

This study borrows insights and contribution from multiple theories which are the Resource Dependence (RD) Theory (Pfeffer and Salancik, 1978), the Carrot and Sticks (C &S) Theory (Bowring, 1962; Hixson, 1989), the Innovation Value Chain (IVC) Model (Hansen and Birkinshaw, 2007) and Multi-Dimensional Innovation (MI) Model (Myers and Marquis, 1969). The RD Theory was used in establishing the resource's capability of GCSOs in the dissemination of innovations to PCSOs. It examines the relationship between organisations, and the resources they need to operate. The theory urges that if one organisation maintains most of a resource, then another organisation will become dependent on it in order to operate, creating a symbiotic relationship i.e. the parasitic symbiosis. This implies that, as governments maintain most resources, then the GCSOs become dependent on them.

Too much dependency creates uncertainty, which leaves organisations subject to the risk of external control. External control imposed by the government can have a significant effect on GCSOs operations, especially on resources capability. The theorist urged managers to strategise on alternative business plans in order to lower the risk i.e. to lower innovations dissemination failure. The relevance for use of the RD Theory is centred on the fact that in most cases the GCSOs do not have resources of their own and perhaps that would be a limiting factor in disseminating innovations they generate. It thus concerns the relationships between the GCSOs and the government (or other organisations) that provide them with resources for dissemination of innovations.

While the RD Theory captures attributes relating to organisational resources, it was complemented with the C& S Theory capturing incentive aspects. This was due to the fact that GCSOs resources availability may be influenced by some other attributes including availability of innovation incentives among executives and personnel. The C&S Theory is based on the principles of reinforcement. It asserts that in motivating people to elicit desired behaviours, sometimes rewards should be given in the form of financial or non-financial benefits and sometimes punishment should be exerted to push such people towards the desired behavior. It is assumed that, for innovations dissemination to PCSOs to occur, there should be some incentives and or reinforcements from either the government or GCSOs to motivate personnel to do so. In this study, the two theories complement each other deriving from the possibilities that, the problems of innovations dissemination to PCSOs can be within and beyond the reach of GCSOs. Similarly, the IVC Model was used to identify the innovation activities undertaken at each innovation value chain of the studied GCSOs and its linkage to PCSOs. The IVC model suggests that effective innovations dissemination occurs when the innovation activities are in chained process right from ideas sourcing, conversion and dissemination. The model is a strategic tool useful in assessing the strengths and weaknesses of the innovation process (Hseih *et al.*, 2011). The IVC Model was chosen because it focuses on the assessment of the innovation process outputs. It is guided by some key questions and its subsequent key performance indicators (Hansen and Birkinshaw, 2007) that should be observed in measuring the innovation value chain activities. In this study, the IVC Model questions were applied as a guide (slightly modified to suit GCSOs context) in data collection. The model has been used in assessing innovation value chain activities in various organisations (Ganotakis and Love, 2012; Ishak *et al.*, 2014).

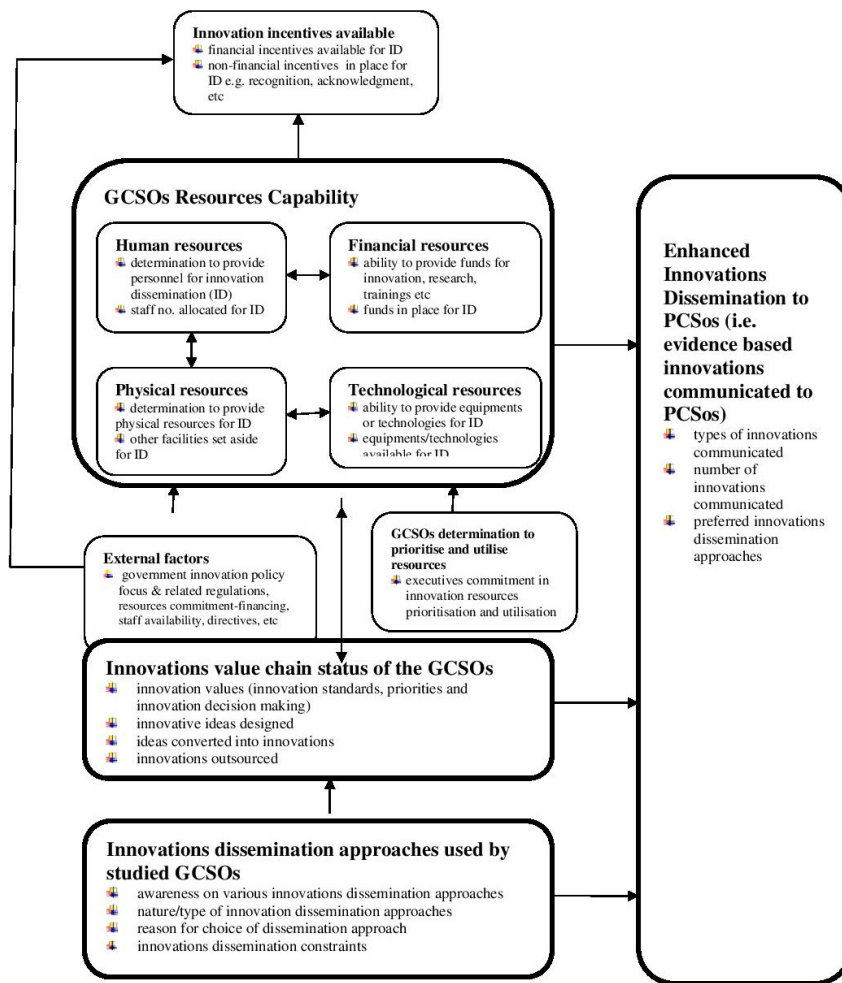
Moreover, the MI Model was used to assess the various innovations dissemination approaches in the studied GCSOs and how such approaches are inclusive of the

needs from demand and technical sides of such innovations. The model posits that the process of successful innovation dissemination is sequential meaning it follows a logical order starting with need recognition by both sides i.e. demand-side and technical side. The demand side for this study is the primary co-operative societies and the technical side is the government co-operative supporting organisations. It is worth noting the fact that there are other innovation dissemination approaches that are more advanced and possibly inclusive than MI Model (Eleveens, 2010; O' Raghallaigh *et al.*, 2011) however its choice was considered relevant given the basic and underdeveloped nature of innovation activities in most GCSOs in Tanzania. The model considers both the demand and technical side of the innovation actors without necessarily considering advanced relationships e.g. complex and extensive networking. Such relationships are currently thought to be missing in the studied organisations. Multiple theories were used because the study aimed at capturing all key capability attributes which are resources, values (prioritising and making innovations decision) and processes/approaches. The subsequent sub-sections further elaborate on the theories used.

### 1.2 The Conceptual Framework (CF)

As shown in Figure 1 the background variables (BVs) that include existing government policies and strategies influence the independent variables (IVs) whereas any positive intervention in the IVs affects directly the dependent variable (DV) by contributing to enhanced innovations dissemination to PCSOs. The government policies and strategies in terms of its formulation and implementation are assumed to influence innovations dissemination in the studied GCSOs. Such policies and strategies stipulate how various resources are allocated and implemented as well as the priority organisational innovation areas. GCSOs innovation capabilities in terms of the utilised resources, approaches/processes used, and innovation values are expected to influence innovations dissemination to PCSOs. Any positive intervention on the aforementioned aspects is likely to contribute positively towards enhancing more innovations dissemination to PCSOs and vice versa. For instance, the operation of the studied GCSOs is assumed to be influenced by the personnel practical innovation skills in innovations design and dissemination. It is assumed that the higher the practical innovation skill set of the personnel in the studied GCSOs, the better the innovations dissemination and vice versa. The same applies to other presumed resource variables and all other IVs.

The DV is the enhanced innovations dissemination to PCSOs and it can be measured in terms of types of innovations communicated, number of innovations communicated and preferred innovations dissemination approaches while the IVs that are assumed to have influence on the DV include innovation resources commitment (access and utilisation), innovations dissemination status including innovation values i.e. innovation standards in place, innovation priorities and innovation decision making, types and number of innovations designed, types and number of innovations outsourced and types and number of innovations disseminated. The other one is innovations dissemination approaches i.e. awareness on various innovations dissemination approaches, type of innovations dissemination approaches applied and reasons for the choice of the approaches. It is worth noting that the IVs depicted in the CF are inter-related to one another in the sense that the availability of one variable positively influences the other and ultimately contributes to innovations dissemination to PCSOs. The vice versa is also true to such variables. Thus, the bidirectional arrows indicate interrelationships between variables and the unidirectional arrows depict the influence of one variable on the other variable(s) (Fig. 1).



**Figure:1**The CF Summarising Relationships between GCSOs Capabilities and Innovations Dissemination (ID) to PCSOs (Source: Authors' Own Construction)

## 2.0 Research Methodology

### 2.1 Study Areas

The study covered Dodoma, Kilimanjaro and Dar es Salaam Regions. The three regions were chosen because it is where the selected case studies i.e. GCSOs are located and thus not found in other regions. The focus was only on GCSOs though there are other member-based and private organisations supporting PCSOs. The GCSOs were chosen because, unlike their private and member-based counterparts, they have been receiving resources from the government to enable among other activities, the growth, and development of co-operatives.

### 2.2 Research Design, Data Sources, and Data Collection Procedures

The study employed a case study design using multiple case studies (MCS). The MCS were chosen because the study aimed at identifying similarities and differences in empirical findings from different cases to enable analytic generalisation (Collis and Hus-

sey, 2014). The analytic generalisation is not generalisation to some defined population that has been sampled, but to a theory of the phenomenon being studied, a theory that may have much wider applicability than the case(s) studied (Yin, 2014). Five cases, chosen based on the study scope (Yin, 2004) generated the required empirical findings. Theoretical replication was assumed meaning that the selected cases were considered to be different, due to varying GCSOs core roles and hence expected to produce differing results. The tools for data collection were key informants (KIs) interview guide, observation guide, focus group discussion (FGD) guide and an audio recorder where study participants consent was sought before recording them. Data were collected from KIs comprised of GCSOs executives, FGD participants involving heads of departments/units and staff, documentary reviews including GCSOs documents i.e. innovation policy and strategic plan documents and direct observation of innovation facilities available. Fourteen FGDs sessions, three per each GCSO were conducted except in TaCRI where two were conducted as data saturation was attained.

Several FGDs were conducted in the same organisation aimed at generating more facts and verifying some studied aspects. Each FGD comprised of six to eight participants. Stewart *et al.* (2007) argued that six to twelve is an ideal number as too many participants may be difficult to manage. Likewise, fewer than six tend to reveal less information and the discussion may be dull. The study participants were all heads of technical and academic departments/units and at least two staff members from each department/unit that were conversant with innovation activities. A total of five GCSOs, three quasi co-operative based organisations i.e. TaCRI, VETA and SIDO and two purely co-operatives supporting organisations i.e. TCDC and MoCU formed the unit of analysis for this study. Quasi co-operative based organisations refer to those organisations whose primary role is not to serve co-operatives but deal with them as one among their key actors. The vice-versa is true for co-operative based organisations. The reason for this choice is that the study focuses on generating data from all forms of GCSOs based on their core functions. Equally, innovations assessment in this study covered a ten years period (2007-2017). The duration was arbitrarily chosen and considered to enable enough identification of the innovative ideas sourced, developed and disseminated to PCSOs.

### 2.2.1 GCSOs ratings on some key aspects

Pairwise ranking matrix and an index scale were used to gauge study participant's responses regarding GCSOs innovation chain status and constraints. Differing ratings from different study groups of the same GCSO were harmonised using validation meetings comprised of participants from all studied groups. The criteria for rating the GCSOs innovation status were established after study instruments pre-testing which were thereafter customised to all studied organisations. The criteria were discussed and agreed upon by study participants prior to its actual application. As the study focused on assessing GCSOs innovation status using multiple case studies approach, study participant's responses established represented the GCSOs innovation status and not individual participants' status. Thus, each specific GCSO data were assessed separately with no sample size consideration but rather based on data saturation attainment. Likewise, confirmation visits were done to some PCSOs including Dairy Co-operatives, SACCOS and AMCOS to affirm whether the innovations that were reported to be disseminated by studied GCSOs truly went to them.

## 2.3 Data Analysis

The study adopts a qualitative approach whereby data collection and analysis were not separate processes i.e. were iterative process. Simultaneous process of inquiry and analysis was undertaken whereby some analyses were done during data collection. This includes study participants' responses harmonisation on the GCSOs rating. Data

gathered through field notes and recording were transcribed prior to its analysis. Content analysis was used to analyse documented data. The Atlas.ti computer software was used to analyse data from KIs and FGDs. The data analysis involved scouring for meanings, patterns, surprises, contradictions and silences in the textual data guided by research questions and theory. Data were then analysed in three stages including computer-assisted data reduction i.e. screening, coding, condensing and transforming empirical data. The purpose of data reduction was to ensure that data can speak authentically. Secondly, the data display was done involving reduced texts and tables; and thirdly research conclusion was drawn (Taylor *et al.*, 2011). Finally, the case studies set in the form of qualitative interpretations and descriptions were documented.

### 3.0 Findings and Discussion

#### 3.1 Resources Capability of GCSOs for Innovations Dissemination to PCSOs

In a broader sense, one would expect GCSO's resources limitation to be a major setback towards innovations dissemination to PCSOs. Nevertheless, there was the availability of resources in all studied GCSOs whereby some could be directed at innovation activities. In most GCSOs except TaCRI resources were directed at covering non-innovation related activities. TaCRI was able to utilise some of its funds and other resources for innovations dissemination because apart from innovation being among its core mandate, it was not too reliant on government to finance its activities. Most of the innovation funding came mainly from stakeholders' contributions i.e. coffee growers as the main source, donors and own sources. The implication drawn here is that, as most funding came from the stakeholders, they have always been demanding value for the money invested and this, therefore, explains TaCRI's activeness in utilising available resources for innovations dissemination. On average, government financing to TaCRI between the years 2007-2017 was only 13% of its total annual budget, unlike other GCSOs which stood at more than 75%. It was revealed that, in most cases, government financing to GCSOs was not implemented as planned due to financial limitations. Osakwe and Moussa (2017) found that, while governments have a major role to play in promoting innovation, it is not its responsibility alone. Organisations also have an important role to play. This implies that GCSOs are equally obliged to ensure sufficient innovation finances through own sources to reduce too much reliance on the government.

Availability of some human resources featured in all studied GCSOs. However, most of them except TaCRI were not capacitated by their GCSOs with adequate and practical innovation skills and training. This shows that, as most GCSOs are not equipped with such necessary innovation techniques they are likely to be incapable to successfully undertake significant innovation activities. This is because usually innovation skills and training are among the key innovation inputs in organisations and thus it is lacking translates into poor innovation performance. Usually, employees need to be trained and educated before they can have a positive impact on the innovation process (Texeira and Tavares-Lehman, 2014). This implies that training like on-job/off-job innovation training, seminars, conferences, etc are crucial at enhancing personnel capabilities to disseminate innovations. Moreover, some technological and physical resources were available in all GCSOs but only those of TaCRI were fully dedicated for innovations dissemination to PCSOs. This shows that resource availability alone is not sufficient to enable innovations dissemination. Thus, other attributes including willingness and or determination to implement desired innovation activities are equally important.

Apart from resource capability attributes the study established that most GCSOs were not determined at prioritising and utilising resources for innovations dissemination to PCSOs. Several reasons including an unwillingness by GCSOs to finance innovation activities and limited resources were established by study partici-



pants. Some participants expressed concern that resources were too little to be directed for innovation activities and that, their GCSOs had not got such resources from the government specifically for innovation activities. The implication drawn here is that there was a misconception among some study participants on innovation resources, in the sense that, for innovation activities to be possible there must be a special innovation package branded “innovation resources” that should come from the government to GCSOs. This was so because, some resources like personnel, finances, and others were available but unutilised for innovation activities. This study further revealed that innovation incentives in most of the studied GCSOs were not only inadequate as earlier assumed in this study but were also unpromising and missing in some organisations. In most GCSOs except TaCRI and to a lesser extent MoCU, there were no formal incentive systems for rewarding innovation dissemination activities.

There were also some incidences where available incentives were claimed to be too little and difficult to acquire in terms of associated bureaucratic hurdles. The Carrot and Stick Theory emphasise that employees should be rewarded for them to elicit desired behaviours. This means that, for them to be able to actively participate in innovation dissemination activities, they should be rewarded with some incentives such as innovation prizes, competitions, recognition, training opportunities, promotions, and others. This implies that, the failure by most GCSOs to facilitate innovations dissemination to PCSOs partly results from the lack of incentives from the government or GCSOs to activate its resource base particularly personnel to elicit innovation activities. Unlike other GCSOs, TaCRI had a clear reward system that is well implemented and considered as a key activator in disseminating innovations to coffee farmers, PCSOs inclusive. MoCU also had a limited form of rewarding innovation activities.

Apart from internal factors, this study revealed that some external factors were found to affect the GCSOs resources capability to disseminate innovations to PCSOs. They include government interventions such as the freezing of the new employments and an unprecedented decline in government financing to GCSOs. DFID (2014) established that there has been a lack of government resources commitment especially funding to enable innovation activities in Tanzania. Likewise, most GCSOs except VETA lacked own innovation policy expressing concern that the national STI policy is not sufficiently communicated and translated into GCSOs practice especially on resource availability and commitment for innovations dissemination to PCSOs. Thus, the study affirms that some external factors have been affecting GCSOs resources capability to disseminate innovations to PCSOs.

### *3.2 Innovation Value Chain Status of GCSOs in Tanzania*

On the innovation value chain status, the study revealed a remarkable initiative in most of the studied GCSOs at least at the first stage of the innovation value chain i.e. innovative ideas generation. At this stage, numerous creative ideas were identified in such organisations. Among such innovative ideas include planning to establish co-operative legal clinic where co-operatives could seek legal advice at zero or low/subsidised cost, new co-operative ventures, establishing innovation funds and innovation awards. Others are designing co-operative management software, forming youth graduate co-operatives, designing numerous machines and machine prototypes, developing improved coffee varieties among many others. Nevertheless, the second stage of the innovation chain of the studied GCSOs i.e. creative ideas conversion suffered a notable decline in terms of ideas that were turned into new products or services (Table 1). The declines, however, varied from one GCSO to another depending on the extent to which an organisation has invested resources and prioritise it for innovation activities. It also resulted from lacking coordination and institutionalisation of innovation activities in most GCSOs.

**Table 1: Innovation Chain Status among Studied GCSOs between years 2007-2017**

	Ideas generation	Ideas conversion	Dissemination to PCSos		
GCSO	Quantity	Frequency	Percentage	Frequency	Percentage
MoCU	22	10	45.5	9	40.9
TCDC	15	8	53.3	6	40
SIDO	25	20	80	4	16
VETA	21	14	66.7	1	4.8
TaCRI	45	35	77.8	30	66.7

**Table 2: Innovations Disseminated from GCSOs to PCSos between years 2007-2017**

S/N	GCSO	Innovations Disseminated from GCSOs to PCSos
1	MoCU	Enabled formation of the integrated co-operative model (ICM) among Savings and Credit Co-operative Societies (SACCOS) and Agricultural Marketing Co-operatives (AMCOS) in Ruvuma and Kilimanjaro Regions, milk distribution channels for dairy co-operatives in Kilimanjaro Region, founded “questioning member co-operatives” that later on withdrew their membership from mainstream Kilimanjaro Native Co-operative Union and operate as independent entities (famously known as G32 co-operatives), established the co-operative entrepreneurship and innovation centre (CEIC), formed staff SACCOS doubling as a financial service provider and learning model to students and other co-operatives, established foundational and online co-operative courses, established tailor-made courses for co-operative staff, members and board members and enabled an agro-inputs services access innovation called <i>Weka Akiba Upate Pembejeo (WEUPE)</i> model.
2	TCDC	Enabled the formation of new co-operative ventures i.e. venturing in non-traditional crops co-operatives including Cocoa AMCOS in Kyela District, Mbeya Region and Electricity supply co-operative in Ifakara District, Morogoro Region, influenced government directives to omit middlemen operating along the value chain of the five strategic cash crops i.e. coffee, cotton, tea, cashew nut and tobacco, established co-operative auditing fund as an internal financing source and enforced implementation of the warehouse receipt system countrywide.
3	SIDO	Developed and disseminated a ginger processing plant for Mwamba Myamba co-operative society in Same District and designed a milk holding machine for maintaining maximum temperature during processing for Nronga dairy co-operative in Kilimanjaro Region. Others are offering entrepreneurship and value addition training to industrial co-operatives and established some credit schemes for SMEs including PCSos throughout the country.
4	VETA	Designed grain milling machines and sunflower processors for PCSos in Kilimanjaro and Manyara Regions.
5	TaCRI	Disseminated 10 improved Arabica coffee hybrids and six compact varieties, 4 improved Robusta improved coffee varieties, 3 drought resistant coffee varieties, coffee tissue culture technology, coffee borer traps, soil testing technologies, vegetative multiplication of hybrid coffee seedlings, formed coffee development fund (CDF) among coffee stakeholders and established coffee demonstration plots at co-operative sites throughout the coffee-growing zones in Tanzania.

It was found that in all studied GCSOs, some innovations were developed. Nevertheless, not all developed innovations were aimed for direct dissemination as some like establishment of the research department, re-allocating personnel into regulators and promoters (TCDC), establishing small scale research grants for staff (MoCU), etc were for self-improvement of the GCSOs. In the course of implementing such innovations some long, medium and short term outputs e.g. research products or practices were expected to PCSOs. However, none were recorded by the time this study was conducted. Thus, in most GCSOs except TaCRI, few innovations were disseminated to PCSOs (Table 2). The findings signify the weak innovation undertakings mainly at the conversion phase that ultimately result in few innovations reaching the PCSOs. Gamal *et al.* (2011); Ganotakis and Love, (2012) and Ishak *et al.* (2014) established that weak innovation value chains contribute to few innovations dissemination in organisations.

The findings from this study confirm the key argument of the Innovation Value Chain model which emphasises that for effective innovations dissemination to occur, the organisation's innovation value chains must be effectively linked (Hansen and Birkinshaw, 2007). Despite some notable innovations and their dissemination to PCSOs in some GCSOs (Table 2), most of them were rated "poor" for the reason that since the study assessment covered a ten years' period (2007 to 2017), much more could have been done to enable more innovation value chain outputs. This implies that in the period under study, the innovation value chains i.e. ideas generation, conversion and dissemination of most GCSOs were weak and uncoordinated, making few innovations reaching the PCSOs. In contrast, however, TaCRI's innovation chain analysis shows that it was good at sustaining its innovation value chains and hence reasonable innovations i.e. twenty-three improved coffee product varieties and seven other innovations were disseminated to farmers, PCSOs inclusive between the years 2007 and 2017.

### ***3.3 Innovations Dissemination Approaches among GCSOs in Tanzania***

With an increasing concern for inclusive innovations dissemination approaches efforts are required to ensure its successful intervention and implementation. The study revealed that the studied GCSOs have been using various approaches in enabling innovations dissemination to PCSOs. The approaches vary from one GCSO to another based on several reasons such as who initiates such innovations, existing support, and influence. The study revealed a lack of institutionalised approaches regarding innovations dissemination in most of the studied organisations. The review of the strategic plan documents of the GCSOs revealed that none except TaCRI had clearly stipulated and implemented an innovation dissemination blueprint. This implies that there were no deliberate efforts for ensuring proper organisation, resources commitment and implementation of the innovation activities in most of the studied organisations.

In VETA despite being the only organisation with documented innovation policy, the same was not explicitly implemented. This was because there were no resources that were specifically allocated and prioritised for innovation activities since the same were more of individual staff efforts than being institutionalised. As a result, most of the innovations developed in VETA were only for showcasing and training than for dissemination to end-users. Nevertheless, TaCRI being a pure research institute dealing with coffee research was found to have institutionalised plans translated into dynamic research conduct and innovations sharing and dissemination. In the period between 2007 and 2017, twenty-three improved coffee varieties and other innovations such as tissue culture technologies, vegetative multiplication of hybrid coffee varieties, etc were disseminated to farmers and PCSOs. Fewer innovations dissemination was recorded in other GCSOs in the same period. This shows that organisations with institutionalised innovation plans are likely to be more vibrant in innovations dissemination than those lacking such plans.

On the innovation dissemination approaches commonly in use it was found that several approaches that included top-down, bottom-up and to some extent, interactive approaches were used by studied organisations in different contexts. Thus, multiple innovations dissemination approaches were applied. The choice of the approach used was mainly dictated by GCSOs perception of the innovations to be disseminated and innovation influence or support provided. Little emphasis was given on actual users' needs. Consequently, most disseminated innovations were done using a top-down approach. This shows that the approaches that consider users as active participants in the innovation process were rarely used. As a result, they have largely left out in the process a tendency likely to result in a lack of innovation outputs user ownership and sustainability. The study established that all of the studied GCSOs have occasionally involved innovation users in innovations dissemination. Nevertheless, the nature of their involvement skewed more on passive participation meaning PCSOs were not vigorously involved in most of the key innovation processes than interactive participation or other higher participation level. This implies that innovation users' active involvement in the innovation chain activities was minimal.

### *3.4 Theoretical Reflection*

The study employed four theories which are the Resource Dependence (RD) Theory, the Carrot and Sticks (C& S) Theory, the Innovation Value Chain (IVC) Model and the Multi-dimensional Innovation (MI) Model. The RD and C & S Theories were employed in the first objective of this study. The RD Theory examines the relationship between organisations and the resources they need to operate. The second theory i.e. C&S Theory is based on the principles of reinforcement. It asserts that in motivating people to elicit desired behaviours, sometimes rewards should be given in the form of financial or non-financial benefits and sometimes punishment should be exerted to push such people towards the desired behavior. The study applied the theory in ascertaining whether there are any formal incentives or reward and punishment systems pertaining to innovations dissemination activities in the studied GCSOs. It is considered that for innovations dissemination to PCSOs to occur, there should be some incentives and or reinforcements from either the government or GCSOs to motivate personnel to do so.

Based on the RD Theory grounds, the study established existence of GCSOs resources reliance syndrome skewed on the government side, in the sense that, most GCSOs feel they were unable to facilitate innovations dissemination because they were not provided with innovation resources from the government. Nevertheless, the study revealed that some resources were available but unutilised for innovation activities. This then was taken care of by the second theory i.e. the C & S Theory, in that, perhaps there were no incentives to reinforce GCSOs executives and personnel to utilise available resources for innovations dissemination to PCSOs. But again, the study identified some cases where incentives were available, but personnel were not motivated towards such incentives (outcome-based) because of some bureaucratic hurdles to acquire them, too meagre incentives and lack of clear incentive systems. Thus, the study contributes to the C & S Theory in the sense that, for incentives to result in desirable outcomes they should not only focus on the ends (outcome-based) but on means (process) as well.

IVC Model was applied in the second study objective. The model suggests that effective innovations dissemination occurs when the innovation activities occur in the chained process right from ideas sourcing, conversion and dissemination. In this study, the model was used to identify the innovation activities undertaken at each innovation value chain of the studied GCSOs and its linkage to PCSOs. Nevertheless, in this study, the innovation value chain analysis revealed a weak progression from a lower node of the innovation chains i.e. ideas generation to dissemination. In most GCSOs, great initiatives were on ideas generation and little efforts on conversion and dissemi-

nation. The study confirmed the IVC Model which accentuates that, for effective innovations dissemination to take place the organisation innovation value chains must be effectively linked. Similarly, the innovation value chains of most of the studied GCSOs were not sufficiently linked to innovations dissemination to PCSOs. Based on the IVC Model the study established weak innovation value chains in most of the studied GCSOs, a situation attributed to few innovations dissemination to PCSOs.

The third study objective makes use of the MI Model. The model suggests that the process of successful innovation dissemination is sequential meaning it follows a logical order starting with need recognition by both sides i.e. demand-side and technical side. The demand side for this paper is the primary co-operative societies and the technical side is the government co-operative supporting organisations. The MI model was used to assess the various innovations dissemination approaches in the studied GCSOs and how such approaches are inclusive of the needs from demand and technical sides of such innovations. This study makes use of the MI Model which literally emphasises that successful innovations dissemination is a function of need recognition between demand and technical side. The study establishes that there was a minimal relationship between the two sides. This implies that there was limited interaction between the GCSOs as innovation technical side and PCSOs as innovation demand side a situation that may partly explain why few innovations are disseminated to PCSOs. Thus, since the interactive innovations development and dissemination approach was not adequately implemented among the studied GCSOs the findings confirm the MI Model. This implies that the interactive approaches necessary for enabling successful innovations dissemination were largely lacking unlike the model postulation that emphasise on the need for the GCSOs and PCSOs to actively interact in enabling successful innovations activities.

## **4.0 Conclusions and Recommendations**

### **4.1 Conclusions**

The study concludes that most GCSOs were not determined at prioritising and utilising resources for innovations dissemination to PCSOs. The study further concludes that lack of incentives to support innovation activities amongst GCSOs executives and personnel has been hindering the dissemination of innovations to PCSOs. Most GCSOs lack formal and comprehensive incentive systems to reward innovation activities. It is also concluded that some external factors including government freezing of employment at the co-operative sector and declining government funding commitment to GCSOs have affected GCSOs resource availability to enable innovations dissemination to PCSOs. The study further established weak innovations progression from the lower node of innovation chains i.e. ideas generation to dissemination. In most GCSOs, great initiatives were on ideas generation and little efforts on conversion and dissemination. Meanwhile, on the innovation's dissemination approaches the study concludes that there were neither deliberate efforts among studied GCSOs regarding formal organising, resources commitment and implementation of innovation dissemination activities nor inclusive efforts on PCSOs engagement on the same. The PCSOs were mainly involved in the final stages of innovations dissemination as submissive recipients.

### **4.2 Recommendations**

This study recommends that the GCSOs executives should work to ensure sufficient resources commitment and its utilisation to enable innovations dissemination to PCSOs. Regarding the unavailability of formal incentive systems among studied organisations it is recommended that the GCSOs executives should establish and implement clear incentive systems to reward innovation dissemination activities. The incen-

tive systems should include inclusive rewards e.g. innovation training, prizes, competitions, financial rewards, salary hikes, recognition of innovators and others based on innovation activities done. On the influence of external factors affecting innovations dissemination, the GCSOs are advised to strive to minimise the resultant negative effect from such factors through mobilizing more internal resources to arrest the situation. As the study revealed a weak innovation progression from the lower node of innovation chains to higher ones it is recommended that the GCSOs should genuinely work to ensure innovation value chains are strengthened. The chains can be strengthened by ensuring sufficient allocation and prioritisation of resources for innovation activities. This should go hand in hand with ensuring institutionalisation of innovation activities including establishing and operating of a unit or department responsible for innovation aspects. Such units or departments should be manned with qualified personnel that can conduct innovation researches, interpret research findings and translate the findings into innovation outputs and ultimately disseminating them to PCSOs. To achieve this, the GCSOs should also provide the necessary resources to enable their operations. Similarly, regarding the dissemination of the innovation approaches it is advised that the GCSOs should work to ensure inclusive innovations dissemination approaches as opposed to the existing predominantly context biased approaches. There should be comprehensive and interactive approaches that consider innovation end-users i.e. PCSOs as active participants in the whole innovation value chain. This means that there should be deliberate efforts to make PCSOs part and parcel of the innovation process right from idea sourcing, selection, conversion and dissemination.

#### **4.1 Study Limitations and Areas for Further Research**

The present study was limited to GCSOs only even though there are other member-based and private organisations that support co-operatives in Tanzania. A more inclusive study covering and comparing other co-operative supporting organisations is advised in the future to establish their resources capability for the dissemination of innovations to PCSOs. This study was also limited at assessing GCSOs capabilities in the dissemination of innovations to PCSOs in Tanzania. A more comprehensive study is recommended to establish how the few innovations disseminated have impacted the PCSOs. This should also include aspects pertaining to innovations adoption and sustainability.

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#### ***Statement of No Conflict of Interest***

The authors of this paper wish to declare that there are no competing interests in the publication of this article.

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NJAU, MASSAWE & MAHONGE

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