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Résumé de l'article

Nepal has been experiencing increasing food deficits for the past three decades. Inadequate irrigation facilities, labor shortages, conversion of agricultural lands to other land uses, land degradation, poor agricultural marketing, lack of necessary infrastructures, and poor agricultural productivity are commonly cited constraints to increased agricultural outputs. Cooperatives are one of the three pillars for the economic development of Nepal (public, private, and cooperative). Currently, there are a total of 34,512 cooperatives (13,578 savings and credit, 4,371 multipurpose, 10,921 agriculture, 1,658 milk, 1,423 consumer, 193 fruits and vegetables, 108 tea, 155 coffee, 184 Jadibuti, 93 bee keeping, 143 communication, 128 health, 48 sugarcane, 45 Junar, and 999 other), with a total membership number of 6,305,581 in Nepal. Despite these initiatives, Nepal's agriculture is experiencing a serious downward spiral. Therefore, it is necessary to immediately identify and implement a theoretically grounded agricultural development framework in order to reverse the downward spiral of agriculture, accelerate economic growth, and achieve fast-paced socio-economic transformation. In this regard, I suggest strengthening cooperatives at the grassroots level for agricultural production within the framework of Asta-Ja (referring to eight Nepali "Ja"- Jal, Jamin, Jungle, Jadibuti, Janashakti, Janawar, Jarajuri, and Jalabayu) and integrating them vertically with public and private businesses at the regional and national level. Agricultural programs and policies need to be formulated so that they would focus locally on Asta-Ja resources and globally on international trade and treaties, global demand and supply, global climate change, the emerging concept of the fourth wave of industrialization, and other pertinent issues within the global context.

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Management of Cooperatives Focusing on Asta-Ja and Globalization

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Nepal has been experiencing increasing food deficits for the past three decades. Inadequate irrigation facilities, labor shortages, conversion of agricultural lands to other land uses, land degradation, poor agricultural marketing, lack of necessary infrastructures, and poor agricultural productivity are commonly cited constraints to increased agricultural outputs. Cooperatives are one of the three pillars for the economic development of Nepal (public, private, and cooperative). Currently, there are a total of 34,512 cooperatives (13,578 savings and credit, 4,371 multipurpose, 10,921 agriculture, 1,658 milk, 1,423 consumer, 193 fruits and vegetables, 108 tea, 155 coffee, 184 Jadibuti, 93 bee keeping, 143 communication, 128 health, 48 sugarcane, 45 Junar, and 999 other), with a total membership number of 6,305,581 in Nepal. Despite these initiatives, Nepal's agriculture is experiencing a serious downward spiral. Therefore, it is necessary to immediately identify and implement a theoretically grounded agricultural development framework in order to reverse the downward spiral of agriculture, accelerate economic growth, and achieve fast-paced socio-economic transformation. In this regard, I suggest strengthening cooperatives at the grassroots level for agricultural production within the framework of Asta-Ja (referring to eight Nepali "Ja"- Jal, Jamin, Jungle, Jadibuti, Janashakti, Janawar, Jarajuri, and Jalabayu) and integrating them vertically with public and private businesses at the regional and national level. Agricultural programs and policies need to be formulated so that they would focus locally on Asta-Ja resources and globally on international trade and treaties, global demand and supply, global climate change, the emerging concept of the fourth wave of industrialization, and other pertinent issues within the global context.

1. Introduction

Cooperatives are considered one of the major vehicles for agricultural commercialization, increased food production, and socio-economic development of a nation by various schools of thought from the European to the California and Chicago schools (Torgerson et. al., 1997). Cooperatives are appropriate responses, especially to resource-limited smallholder farmers, in order to produce goods, add value, empower local communities, and develop national and global market competitiveness. The cooperative movement has basically become a social movement of small farmers for agricultural commercialization, resource conservation, income generation, and rural community economic development.

India began its cooperative movement as early as 1904 with the enactment of the Cooperative Credit Societies Act (Verma, 2005), and currently there are over 230 million members in over half a million cooperative societies, extending to almost every village in the country. The establishment of the All India Cooperative Institute Association in 1929, the National Cooperative Union of India in 1961, and the Indian Farmers Fertilizer Cooperative in 1967 can be taken as some of the major milestones in the Indian cooperative movement. Indian cooperatives provide services to rural communities through various activities such as providing agricultural credits, marketing agricultural commodities, producing sugar and clothing, and distributing fertilizers. Indian cooperatives are quite diverse covering various enterprises including dairy, textiles, sugar, handlooms, and urban banking. Although cooperatives in India are generally taken as success stories and have been able to contribute to socio-economic transformation of the country, there are many cooperatives which are not successful mainly due to their bureaucratic

control, lack of professionalism, political interference, poor administration and management, and overdependence on governmental assistance (Mayoux, 1995; Press Information Bureau, 2007).

Cooperatives are also quite successful in developed countries like the USA. In 2017, there were 1,871 agricultural cooperatives (1,010 marketing, 777 farm supply, and 84 service) in the US, with a total of 1.8 million voting members. Agricultural cooperatives in the US are categorized as marketing, farm supply, and service coops (USDA, 2018). Major agricultural products marketed by the US agricultural coops included beans, cotton, dairy, fish, fruits and vegetables, grain and oilseed, livestock, poultry, rice, and sugar. Similarly, the farm supply coops supplied crop protectants, feed, fertilizers, petroleum products, and seeds. The service coops provided services by shipping livestock, crop storage, crop drying, and grinding. The US Agricultural cooperatives had 138,635 full-time employees and a total gross business volume of \$197.1 billion in 2017.

The cooperative movement has become the top national agenda of the Government of Nepal since the 1950s. Nepal began its cooperative movement through the establishment of 13 credit cooperatives in 1956 in Chitwan district to assist flood victims, a Cooperative Bank in 1963, and the Land Reform Savings Corporation in 1966 (NCFN, 2007). The Cooperative Bank was later converted to the Agricultural Development Bank in 1968. Government affiliated credit and finance cooperatives dominated until 1990, then enactment of the Cooperative Act of 1992 provided opportunities for farmers and other individuals to establish cooperatives at the local level. The National Cooperative Federation (NCF, 2019) lists the historical events of the cooperative movement in Nepal. As a result of continued emphasis on the cooperative movement in Nepal, there were a total of 7.598 cooperatives (2.979) multipurpose cooperatives, 2,345 credit unions, 1,410 milk producer cooperatives, 154 consumer cooperatives, and 710 other types of cooperatives) by 2004 in the country (Mali, 2005). This number has increased to a total number of 34,512, with a total membership number of 6,305,581 at present (DOEC, 2019). Various cooperatives in Nepal include: savings and credit (13,578), multipurpose (4,371), agriculture (10.921), milk (1,658), consumer (1,423), fruits and vegetables (193), tea (108), coffee (155), Jadibuti (184), bee keeping (93), communication (143), health (128), sugarcane (48), Junar (45), and other coops (999). According to FAO (2017), the umbrella organization of the agricultural cooperatives in Nepal, the Nepal Agriculture Cooperative Central Federation Ltd (NACCFL), had 750 agricultural cooperatives with a total number of 815,000 member cooperatives in 2017. The NACCFL provides nonfinancial support to its members, especially in relation to capacity-building, marketing management, and policy advocacy.

Despite relentless government efforts to develop cooperatives and cater services to local producers, consumers, and other stakeholders, the results are far from satisfactory. Since most cooperatives are urban-based and are limited to finance and credit, most rural areas have not felt any cooperative movement in Nepal. The Dairy Coops, however, can be taken as an exception and have been relatively successful in reaching out to rural communities. According to Mali (2005), the major reasons for the failure of cooperative movement in Nepal include lack of monitoring and evaluation of cooperatives, lack of national vision on cooperative development, lack of managerial skills for running cooperatives, and lack of working capital as well as support systems.

Nepal's agricultural trade indicators over the past four decades show a very alarming trend. Nepal had an agricultural trade balance of US \$14.3 million in 1979–80 which turned into a negative agricultural trade balance of US \$151.6 million in 2002 (ESSA, 2002), and an import of agricultural goods worth over US \$2 billion (exact value in Nepalese rupees of Rs 215.50 billion) in the 2017–2018 fiscal year (Prasain, 2018). There is a widespread concern among local communities, national media, farmers, agriculturists, intellectuals, policy makers, and other stakeholders in relation to increasing agricultural imports, food safety and security, agricultural unemployment, outmigration of farming communities, land abandonment, and the conversion of agricultural lands in the country. Major factors

responsible for the failure of agricultural initiatives in Nepal include: the lack of a theoretically grounded and comprehensive agricultural development framework for the nation; implementation failure of agricultural policies and programs; degradation of natural resources; poor infrastructure; lack of appropriate market interventions (Poudel, 2019), social unrest; political instability; and the lack of clear understanding of local conditions coupled with a poor global perspective on agricultural planning and development.

2. The Asta-Ja Framework

Following the publication of the four-diamond model for business strategy and industrial competitiveness of nations (Porter, 1998), I published a theoretically grounded Asta-Ja Framework in this journal about a decade ago and argued that Asta-Ja resources have the greatest competitive advantages for economic growth and socio-economic transformation of Nepal (Poudel, 2008). Asta-Ja means eight *Ja*, referring to the Nepali letter *Ja* and the associated words (*Jal* (water), *Jamin* (land), *Jungle* (forest), *Jadibuti* (medicinal and aromatic plants), *Janashakti* (manpower), *Janawar* (animals), *Jarajuri* (crop plants), and *Jalabau* (climate)). My subsequent publications on the Asta-Ja Framework include the Asta-Ja environmental and natural resources policy framework (Poudel, 2009), strategic framework (Poudel, 2011), Asta-Ja management capacity-building framework (Poudel, 2012), management of Asta-Ja system (Poudel, 2016), restructuring National Planning Commission focusing on Asta-Ja and Nepal Vision 2040 (Poudel, 2018), Asta-Ja for grassroots-based economic development of Nepal (Poudel, 2019a), Asta-Ja crusade for a fast-paced agro-jadibuti industrialization of Nepal (Poudel, 2019b), and agricultural and natural resources development and management strategy in Nepal (Poudel, 2019c). These publications have enormously enriched the Asta-Ja Framework by covering its theoretical, scientific, and operational dimensions and competitive advantage in Nepal.

The sections below present the types of cooperatives, establishment and development of cooperatives, challenges, and opportunities of cooperatives, and the vertical integration of cooperatives with corporate and private businesses, corporations, and business entities for agricultural development and socio-economic transformation in Nepal.

3. Types of Cooperatives

Cooperatives are locally organized self-help groups for undertaking different activities including production, marketing, supplies, finance, and providing services. Since cooperatives follow the bottom-up structure in its governance and function locally, they may potentially serve as effective organizations for agricultural production, natural resources conservation, and economic development. Cooperatives are present in various forms in almost every country worldwide. Primarily, coops exist as service, production, processing, or marketing-related entities, but there are a wide range of coops including environmental or tourism cooperatives. The marketing, production, and processing coops may include various commodity specific cooperatives such dairy, fruit and vegetables, sugarcane, cotton, poultry, and livestock, while the farm supply cooperatives include those involved in the supply of farm inputs such as seeds, fertilizers, farm equipment, animal feed, petroleum products, veterinary supplies, and other necessary items for farming. Processing cooperatives help minimizing losses of perishable commodities such as fruits and vegetable, flowers, and other similar products by providing appropriate processing and storage facilities. In a country where post-harvest losses of food products is as high as 30%, the establishment and development of processing cooperatives is critical for agricultural commercialization and economic growth. Service cooperatives may be engaged in providing various services such as crop and livestock insurance, telephone/electric services, credit services, irrigation services, trucking, grain banks, ginger drying, rice drying, soil testing, land leveling, crop scouting, and providing nurseries and seedlings to its members. Environmental cooperatives such as sustainable agriculture, rural development, and nature

farming (Wiskerke et al., 2003), and tree growers' cooperatives in India in recent years are attracting the interests of policy makers and governments worldwide. Tourism cooperatives such as agri-tourism or ecotourism are increasing worldwide. According to Verma (2005), India is trying to utilize its existing farmer cooperative networks in tourism development.

4. Establishment and Development of Cooperatives

There is a general tendency towards cooperatives, especially in Nepal, being established without sufficient groundworks, needs assessments, feasibility studies, availability of necessary manpower, constraint analysis, and market competition. Each stage of cooperative establishment and development such as creation of the idea for cooperative to group formation, developing bylaws and terms and conditions, membership distribution, securing capital, putting together necessary logistics and infrastructure, hiring personnel, running businesses/activities, record keeping, monitoring and evaluation, and the assessment of progress made are quite challenging. Well-thought out strategies and a high level of managerial skills are necessary to excel in each stage. Clear operational guidelines, rules and regulations, communication, and democratic procedures in the operation of cooperatives are of the utmost importance in the success of a cooperative. Building and maintaining trust among the members of the cooperatives is critical for the smooth operation and success of a cooperative. The management body of a cooperative, depending on its focus, should always be capable of anticipating market opportunities, government support, weather conditions, and other factors that are important for the success of a cooperative. There should be a clear definition of the roles and responsibilities of the Board and the manager of a cooperative. Generally, the Board makes the policies and guidelines while the manager performs and supervises day-to-day works. It is important to have a clear organizational structure and governance for the success of a cooperative.

5. Limitations and Challenges of Cooperatives

As with many other businesses, cooperatives have their own limitations, obstacles, and challenges, which could relate to bio-physical, socio-economic, institutional, communication, governance, and management issues. Lack of irrigation, productive lands, lack of roads or power supply may well be limitations for agricultural production cooperatives whereas outmigration of the rural population or disappearance of family farms could be an obstacle. Sheer competition with private companies for product marketing, labor shortages, and lack of necessary capital for operation and maintenance could be another set of problems for the development of a cooperative. Increasing prices for inputs such as fertilizers, fuels, pesticides, rising labor wages, governmental regulations, unfavorable global trade and environmental regulations may add an additional burden on cooperatives. Cooperatives may lose their regional, national, and international competitiveness if their production environment, support system, demand conditions, and availability of infrastructure and access to new technology is not assured. The competitiveness of cooperatives can be enhanced through capacity-building, vertical integration with private companies, marketing networks, and corporatebusinesses; product diversification, and collaboration with other businesses. It is critical that the cooperative develop its own brand and identity for successful marketing. This means cooperatives should have a great deal of professionalism in their operation, record keeping, communication, product quality, and competitive prices. Many cooperatives are unable to access and utilize science and technologies that the Government of Nepal has already developed and is available for public use. Finally, establishment of clear communication among its members is a major challenge for cooperatives. Cooperative purchasing of inputs such as seeds, fertilizers, pesticides, and other farm supplies will be beneficial to members and will save them money. The importance of good leadership in cooperative management and development cannot be overemphasized.

Cooperatives should fully utilize government services in their development and operation. The government of Nepal has an extensive array of agencies and institutions dedicated to the development of cooperatives in the country. They include: the Department of Cooperatives, the Ministry of Agriculture and Cooperatives, the Central Cooperative Training Center, the National Cooperative Development Board, the Nepal Central Consumer Cooperative Federation Ltd., the Nepal Federation of Savings and Credit Central Cooperative Union Ltd., the National Cooperative Bank, Ltd., and the Central Dairy Cooperative Association Limited, Nepal. It is extremely important to establish a high level of coordination, communication, and collaboration among these agencies and cooperatives for the success of cooperatives in Nepal.

6. Vertical Integration of Cooperatives

Supply chain management always has been a major challenge for efficient production and marketing of agricultural commodities. Many farmers are struggling for better prices for their produce, governmental support, and marketing of their commodities. On the other hand, the rising urban population is resulting in increasing demand for food and other commodities. Small cooperatives formed in rural areas are not capable of undertaking bigger roles in processing, packaging, storage, and marketing of agricultural products primarily due to their limitations on capital and human resources, smaller volume of produce, lack of knowledge, and lack of necessary infrastructures. Therefore, regional and national marketing initiatives need to be undertaken by corporate or private businesses, corporations, or other joint venture entities who can invest in the necessary logistics, transportation, storage, and human resources. This brings an opportunity for vertical integration of cooperatives with corporate or private businesses, corporations, and similar other companies in the agricultural supply chain. The formulation of appropriate policies, rules and regulations, and guidelines is necessary for this integration.

A clear understanding and definition of the operational scope and boundaries of cooperatives and private businesses involved in production, marketing, and export of goods and services is of utmost importance for enhancing national competitiveness. Figure 1 shows the generalized operational scope and vertical integration of coops with corporate and private businesses to raise national competitiveness in agricultural production, marketing, and exports. In order to be successful, cooperatives and private businesses should actively communicate, collaborate, and coordinate their production, processing, and marketing initiatives. Corporate and private businesses must be more responsive to national/regional and global factors whereas cooperatives must be more responsive to local and national/regional factors.

Nepal's dairy sector can be viewed as an example of a somewhat vertically integrated structure in its development. Nepal's dairy development began with the establishment of Yak Cheese factory in Langtang in 1952 followed by establishment of dairy cooperatives in Tusal village, Kavre, the formation of the Dairy Development Commission in 1955, and the establishment of the first Central Dairy Plant in Lainchaur in 1956 (FAO, 2010). The Dairy Development Commission was converted to the Dairy Development Corporation (DDC) in 1969, which initiated a milk producer's orientation program in 1981 and encouraged milk producers to form Milk Producers Associations, which were similar to cooperatives. The DDC took initiative in converting MPAs into Milk Producer's Cooperative Societies in 1989. The MPCSs collect milk from the farmers and bring it to milk chilling centers operated by DDC or other private companies. Thus, at the local level MPCSs play a critical role in production, storage, and marketing of milk, while at the regional level the District Milk Producer's Cooperative Unions (DMPCUs) are established to support MPCSs in their milk production, delivery, and the general uplift of the living conditions of the milk producers. At the central level the Central Dairy Cooperative Association Limited Nepal (CDCAN) was established in 1993 to provide support for MPCs and DMPCUs while increasing benefits to the milk producers and enhancing self-reliance on dairy products. By 2010, there were 1,603 MPCSs and 36 DMPUs in Nepal. This three-tier model of dairy development through

cooperatives may serve as an example for the establishment and development of other agricultural cooperatives in Nepal.

As Nepalese agriculture is characterized by a resource-limited, smallholder mixed-farming production system, the vertical integration of cooperatives with private businesses will help Nepal in attracting domestic and foreign investments in agriculture, connecting Nepalese agriculture to global markets, protecting small farms from disappearance, consolidating fragmented lands, and installing farm improvement measures. Cooperatives engaged in land-banking will be very helpful for the consolidation of farm lands.

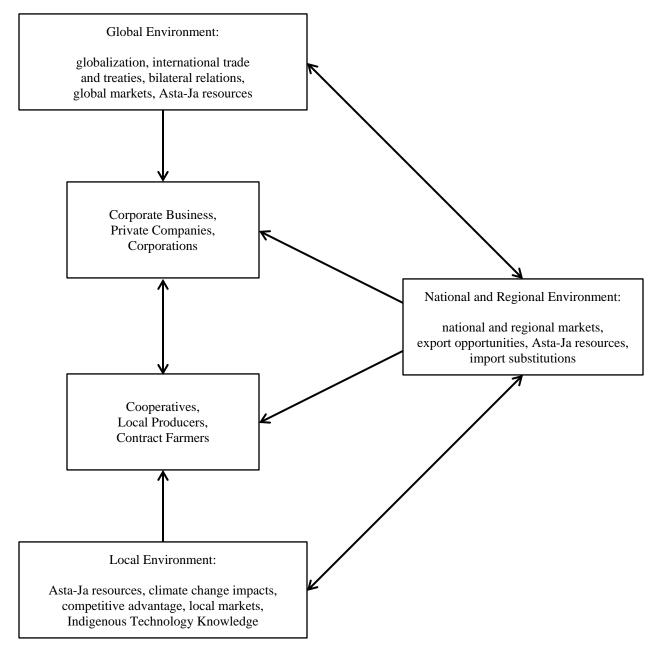


Figure 1. Generalized operational scope and the vertical integration of cooperatives with private businesses to raise national competitiveness in agricultural production, marketing, and exports.

7. Conclusion

As cooperatives include one of the three pillars of national economic development (public, private and cooperative) in Nepal, it is important to enhance the strength, effectiveness, functionality, and outputs from cooperatives in a very transparent and accountable way. Nepal's federal government makes the national cooperative policies, the provincial governments manage cooperatives at the provincial level, and the local governments implement cooperative policies locally. Therefore, it is important for cooperatives to clearly define the scope and boundary of their activities, identify opportunities at the grassroots level, and enhance work performance. In this context, NGOs like Asta-Ja and other entities can play an important role. The proposed vertical integration of cooperatives with private and public sectors fits well with the public, private and cooperative model envisioned by the government of Nepal. For fast-paced socio-economic transformation of Nepal, an effective cooperative movement based on the Asta-Ja Framework, vertical integration of cooperatives with private businesses, and globalization is highly recommended.

References

- Department of Cooperatives. (2019). *Statistics of Cooperatives*. Retrieved from http://www.deoc.gov.np/downloadfile/Coop_data_2074_1544686478.pdf.
- Food and Agricultural Organization of the United Nations. (2004). FAOSTAT 2004 World Development Indicators, Nepal. ESSA.
- Food and Agricultural Organization of the United Nations. (2010). *Dairy Sector Study of Nepal*. Retrieved from: http://nepalagritech.com.np/wp-content/uploads/2016/10/Dairy-Sector-in-Nepal-FAO.pdf
- Food and Agricultural Organization of the United Nations. (2017). *Strengthening agricultural cooperative management in Nepal, FAO Capacity Development*. Retrieved from http://www.fao.org/capacity-development/news-list/detail/en/c/469732/
- Mali, P.M. (2005). Cooperative movement in Nepal and its role in rural development: Innovations and challenges. A paper presented on "Program on Development of Rural Financing Institutions and Cooperatives", organized by CITAB in Kathmandu. Retrieved from http://www.cmfnepal.org/Paper%20for%20CICTAB%20on%20coop%20movement.doc
- Mayoux, L. (1995). Alternative vision or utopian fantasy cooperation, empowerment and women's cooperative development in India. *Journal of International Development*, 7(2), 211–28.
- The National Cooperative Federation of Nepal. (2019). *Imporant Events of Cooperative Movement in Nepal*. Retrieved from https://ncfnepal.com.np/history
- Porter, M.E. (1998). *The Competitive Advantage of Nations: with a new introduction*. New York: The Free Press.
- Poudel, D.D. (2008). Management of eight "Ja" for economic development of Nepal. *Journal of Comparative International Management*, 11(1):15–27.
- Poudel, D.D. (2009). The *Asta-Ja* environmental and natural resources policy framework (Asta-Ja ENRPF) for sustainable development in Nepal. *Journal of Comparative International Management*, 12(2): 49–71.
- Poudel, D.D. (2011). A strategic framework for environmental and sustainable development in Nepal. *International Journal of Environment and Sustainable Development*, 10(1): 48–61.

- Poudel, D.D. (2012). The Asta-Ja management capacity-building framework (Asta-Ja MCBF) for sustainable development in Nepal. *International Journal of Sustainable Developent*, 15(4): 334–352.
- Poudel, D.D. (2016). Management of Asta-Ja System. *Journal of Comparative International Management*, 19(2):19–40.
- Poudel, D.D. (2018). Restructuring National Planning Commission Focusing on Asta-Ja and Nepal Vision 2040. *Asian Profile*, 46(2): 151–167.
- Poudel, D.D. (2019a, January 14). Asta-Ja for grassroots-based economic development of Nepal. *Telegraph Nepal*, Retrieved from http://telegraphnepal.com/asta-ja-for-grassroots-based-economic-development-of-nepal/
- Poudel, D.D. (2019b, January 20). Asta-Ja crusade for a fast-paced agro-jadibuti industrialization of Nepal. *Telegraph Nepal*, Retrieved from http://telegraphnepal.com/asta-ja-crusade-for-a-fast-paced-agro-jadibuti-industrialization-of-nepal/
- Poudel, D.D. (2019c). Agricultural and natural resources development and management strategy in Nepal. *Asian Profile*, 47(1):1–17.
- Prasain, S. (2018, August 7). Agro products import bill crosses Rs200b. *Kathmandu Post*, Retrieved from https://kathmandupost.ekantipur.com/news/2018-08-07/agro-products-import-bill-crosses-rs200b.html
- Press Information Bureau (2007). *Evolution of Cooperatives in India*. Retrieved from http://pib.nic.in/feature/fe0299/f1202992.html
- Torgerson, R.E., B.J. Reynolds, & T.W. Gray. (1998). Evolution of Cooperative Thought, Theory, and Purpose. *Journal of Cooperatives*, 13, 1–20.
- USDA, 2018. *Agricultural Cooperatives Statistics 2017* (Report No. 81). Retrieved from https://www.rd.usda.gov/files/publications/SR81_CooperativeStatistics2017.pdf
- Verma, S.K. (2005, September 20). *Cooperatives and tourism: An Asian perspective*. A paper presented at the TICA 2005 General Meeting in Cartagena, Colombia. Retrieved from http://www.ica.coop/tica/cartagenaverma.pdf
- Wiskerke, J.S.C., B.B. Bock, M. Stuiver, & H. Renting. (2003). Environmental cooperatives as a new mode of rural governance. Wageningen Journal of Life Sciences, 51–1/2.