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**An analysis of the implementation of the SA-China Bilateral Agreement: The case study of the South African Agricultural Technology Demonstration Centre (SAATDC)**

## **Abstract**

*This article is based on an evaluation of the implementation of South Africa-China bilateral agreement, particularly with the case of the South African Agricultural Technology Demonstration Centre (SAATDC). This article particularly examined the implementation of the SAATDC bilateral agreement to determine whether this agreement was effectively implemented. It is evident that policy implementation is one of the key problems confronting developing nations such as South Africa (SA). The article also investigated whether the SAATDC bilateral agreement met the necessary pre-conditions of policy implementation, which are necessary for its success. It thus examined whether these pre-conditions were adequately addressed in the bilateral policy document. Previous research has shown that once these preconditions are met, the potential for successful implementation of a policy increases. There is a need in SA to fully exploit opportunities provided through international aid projects, such as the Chinese aid projects, for the benefit of local workers such as artisans, engineers and project managers. It is therefore important to investigate whether the bilateral agreement made sufficient provision for the adequate involvement of South Africans, especially engineers, artisans and SA companies in the implementation of such Chinese aid programmes. There is a critical need to enhance the skills of SA artisans and engineers, as required by the Accelerated and Shared Growth for SA (ASGISA) and Joint Initiative for priority Skills Acquisition (JIPSA) strategies and objectives.*

## **Key concepts**

**Bilateral agreement, Public policy, Foreign policy, Skills transfer, Technology transfer and Aquaculture**

## **Introduction**

Policy implementation with international aid projects is a major challenge facing developing countries, such as South Africa. South Africa has had policy implementation challenges with international aid projects previously. For example, in 2006, the trade union, Solidarity Group, accused the South African government of undermining the goals and purposes of two important growth invention strategies, namely ASGISA and JIPSA, aimed at mainly improving the skills base in SA, by allowing 270 project managers and technicians from China to participate at the Greenfields Cement Grinding station and Lichtenburg Clinker Line project. According to the Solidarity Report (2006:2), the South African government allowed companies to import skills, without ensuring skills transfer took place.

There are therefore concerns from different sectors in South Africa about the Chinese presence in South Africa. One of the major concerns regarding the Chinese aid programmes is the deployment of the Chinese labour in South Africa. It is argued that the deployment of Chinese labour reduces opportunities for skills transfer and

technology. According to Idun-Arkurst and Laing (2007), approximately 90 percent of the employees in the Chinese construction projects involved in South Africa, are Chinese. Idun-Arkurst and Laing, consequently (2007) argued that the deployment of Chinese employees in South Africa has reduced the beneficial effects of the Chinese investment on the house hold income and diminished the transfer of skills and technology in South Africa. This would therefore limit the long-term impact that Chinese projects are meant to have on South Africa's development. It is however important to highlight that an investigation into such projects revealed that such projects are not fully exploited by South African companies to ensure maximum benefit of skills and technology transfer. Furthermore, the bilateral agreements did not make adequate provision to encourage and facilitate on-going learning and professional development. Moreover, the bilateral agreement for such projects suggests that the Chinese have mainly complied with their obligations for such projects.

Despite the concerns raised, it is important to note that the governments of China and SA ensured commitment to share best practices and collaborate in poverty eradication, employment of appropriate technology, skills transfer, rural development and the creation of jobs. Furthermore, the improvement of SA's skills base and increased factory output through technology transfer, are the key priorities of the SA government with regard to the SA Agricultural Technology Demonstration Centre (SAATDC).

Nevertheless, in taking into consideration the above mentioned concerns, it is necessary to establish whether similar concerns can be noted with the South African bilateral agreement on the South African Agricultural Technology Demonstration Centre (SAATDC). The article therefore examines whether the bilateral agreement made provision for the transfer of skills during and after the construction of SAATDC in Gariep Dam in Free State Province of SA. It is also important to determine if the South African sector fully exploited the project to ensure maximum benefit of skills and technology transfer. The article therefore serves to investigate if the two governments meet the objectives of ASGISA and JIPSA by ensuring that skills and technology transfer did in fact take place. Furthermore based on the research findings, one can determine whether the project made meaningful contributions to the SA skills base in the aquaculture sector production.

### **Overview of Strategic Partnerships between China and SA**

"In February 2007, President Hu Jintao of the People's Republic of China (PRC) announced support for ASGISA and JIPSA, through the donation of 200 million Chinese Yuan (R233 Million) for the setting up of a Vocational Training Centre, and 30 million Chinese Yuan (R33 Million) for an Agricultural Technology Cooperation Centre" in South Africa (Pere and Shelton 2007).

"China and Africa adopted the Beijing Action Plan (2007-2009), based on the shared imperative to promote friendship, peace, cooperation and development, and to advance the new type of strategic partnership between China and Africa in keeping with the Fourth Ministerial Conference of the Forum on China-Africa Cooperation (FOCAC)

Beijing Declaration” (Pere and Shelton 2007). The Chinese government committed to establish 10 agricultural technology demonstration centres in Africa. SA was selected as one of the countries for the project (Pere and Shelton 2007).

Cooperation between SA and China is presently regulated by an agreement on Economic and Technical Cooperation. This agreement was signed in February 2007 (Pere and Shelton 2007). As part of the implementation of this agreement, China and SA signed a contract for the construction of a SAATDC. This agreement serves as the framework of the SAATDC. The Chinese has committed to work with SA, by focusing on its priorities, as set out in ASGISA and JIPSA (Pere and Shelton 2007) and (Tshetlo 2013).

“JIPSA identified agriculture as the utmost priority in SA. The SA agricultural sector has not performed as well as it should. However it has great potential to contribute towards halving poverty, reducing unemployment and improving the lives of rural communities in SA” (ASGISA Annual Report 2008). According to the Report by the Department of Environmental Affairs and Tourism (2006), “across Africa there has been a phenomenal growth in aquaculture. Despite this phenomenal growth in global aquaculture, SA contribution has remained disconcertingly low, accounting for less than 1% of the African aquaculture production”. Aquaculture is defined as “the farming of aquatic organisms such as fish, molluscs, crustaceans and plants in controlled environments, with some form of intervention in the rearing process to enhance production” (Food and Agriculture Organisation of the United Nations 2011). Limited capacities in technology and aquaculture professionals are factors that contribute towards poor performance in aquaculture production in SA.

According to a report produced and published by the former Deputy President of SA, Ms Phumzile Mlambo-Nquka (2006), “firms, sectors and even the national economy are unable to implement planned growth strategies because of problems attributed to lack of skilled people in SA”. In order to support SA in addressing its skills and technology shortage in the field of aquaculture, the Chinese government committed to build the Agricultural Technology Demonstration Centre in Gariep Dam in the Xhariep District of the Free State Province (Tshetlo 2013). (The Xhariep District Municipality Integrated Development Plan (2010/2011) and (Xhariep District Municipality Integrated Development Plan 2010/2011).

Tshetlo (2013), questions whether Chinese aid projects are fully exploited for the benefits of the South African workforce including artisans, engineers and project managers, which are the key objectives of JIPSA and ASGISA. Tshetlo (2013) argued that policy-makers in SA often fail to adequately address factors that undermine the ASGISA and JIPSA objectives on skills and technology transfer when formulating bilateral agreements despite this being the key priorities of the SA government, especially with regard to the SAATDC.

### **An implementation analysis of the South African Agricultural Technology Demonstration Centre (SAATDC) bilateral agreement**

Tshetlo (2013) indicates that the benefits of the SAATDC bilateral agreement are two dimensional. Firstly, there is a skills transfer during the construction phase and secondly, there is post-construction skills and technology transfer phase. The major concern is whether this bilateral programme made any significant contribution towards SA's aquaculture sector development. It is also important to determine whether the SAATDC bilateral agreement was fully exploited for the benefit of the local specialised workforce like artisans, engineers and project managers in line with the country's skills shortage and demands. An analysis is undertaken, as to whether this bilateral agreement makes a provision for adequate involvement of SA engineers, artisans or SA companies in conducting a study of the project, formulation of the project design and construction.

In the construction phase on SAATDC, China was responsible for conducting a professional study, developing a project design and construction of the project. The Chinese also carried all the costs thereof. The SA government provided documents and assistance with customs clearance and duty exemption. The second phase took place from 2013 to 2015. During this phase, the Chinese government appointed a management team to manage the operational aspects of the project and aquaculture experts trained the local SA farmers. The SA government appointed an assistant to manage the project and also appointed technicians involved in the project. The second phase of the project was financed by the Chinese government.

An examination was undertaken as to whether the SAATDC bilateral agreement met pre-conditions of effective policy implementation. According to Mazmanian and Sabatier (1983), "the major role of implementation analysis is to identify the factors that could affect the achievement of the policy objectives throughout the implementation process." According to Kraft and Furlong (2007), "implementation analysis is based on the assumption that it is possible to identify the particular circumstances that could affect implementation of a particular policy, either in advance of a policy's adoption or after it is implemented." This type of analysis can be referred to as prospective analysis. Prospective policy analysis refers to "the production and transformation of information before policy actions are implemented" (Dunn 2004). Policy implementation analysis can occur at any time during the policy process (Bozeman 2013). A prospective or retrospective policy implementation analysis can be conducted in order to reach conclusions about the implementation of SAATDC (Tshetlo 2013). A prospective implementation analysis of the project starts in the present and continues forward in time (Bozeman 2013). "Prospective implementation analysis is different from retrospective implementation analysis, which looks at a known outcome backwards, determining the factors that influenced the implementation of a particular policy." (Kraft and Furlong 2007). It is therefore important to evaluate the bilateral agreement and the internal external factors that could impact on its implementation, such as, financial resources, administrative capacity and the alignment of the agreement to the SA governments' priorities.

**Political support is of critical importance to ensure policy success.** According to Hogwood and Gunn (1984), “some obstacles to the implementation of policies are beyond the control of the administering agencies.” Hogwood and Gunn (1984) also cited that such factors may be physical or political. In this regard two aspects are looked at: firstly, the level of political support to the implementation of the policy, and secondly, external circumstances or environmental factors that could influence the implementation of the SAATDC bilateral agreement. Through an analysis of the programme, it was examined whether these factors were adequately addressed in the programme or bilateral policy theory. According to Kraft and Furlong (2007), “public policy implementation does not take place in a vacuum, but is influenced by social and economic conditions, and prevailing political values.”

According to Naidu (2008), during the 2007 Bi-National Commission (BNC), Chinese President Hu Jintao introduced a three-point proposal to drive the strategic partnership between the two countries including the following: firstly, to maintain the frequent exchanges of high level visits and strengthen the dialogues and consultation on major issues, secondly, to realise and promote the agreements on human resources and agricultural cooperation and lastly to take advantage of the BNC to explore new areas of cooperation. Naidu (2008) further noted that the commitments made during the BNC do not deviate substantially from the substance and rhetoric of China’s broader Africa policy.

The level of political support for the establishment of the SAATDC was reflected by the maintenance of frequent exchanges of high level visits and the strengthening of the high level dialogues and consultation between the two governments (Tshetlo 2013). Since the signing of the agreement, there have been a number of high level engagements which continue to keep the SAATDC on the agenda.

Further to that, “Ministers in charge of foreign affairs and economic cooperation from China and 49 African countries met Egypt in 2009, for the Fourth Ministerial Conference of the FOCAC to review progress made on the implementation of the 2006 FOCAC summit.” (Tshetlo 2013). To further highlight the extent of political support on the implementation of the SAATDC, during the FOCAC ministerial summit, the African countries and the Chinese government reaffirmed their commitment to the policy. “Africa and China commended Africa’s efforts in embracing a growth-oriented agricultural agenda through the Comprehensive African Agricultural Development Program (CAADP) aimed at increasing agricultural growth rates. Africa and China pledged to maintain and strengthen cooperation in agricultural infrastructure, grain production, breeding industry, exchanges and transfer of practical agricultural technologies, and in processing, storage and transportation of agricultural products.” (Tshetlo 2013). During this summit, Chinese also reiterated its support for the SAATDC (FOCAC Action Plan 2009).

In short, the above mentioned commitments and the level of engagements reflect the extent of political support the SAATDC agreement has from SA and China. “Beyond the material and structural aspect of policy implementation, the SAATDC receives a

periodic political boost, to maintain its visibility and relevance in a changing socio-economic climate” (Tshetlo 2013). The progress made on the implementation of the SAATDC was constantly reviewed and re-prioritised both at the multilateral level as well as bilateral level. The SA-China Bi-National Commission was one of the political structures where progress made in terms of bilateral project was reviewed, at the deputy president level.

**Measures should also be put in place to deal with external circumstances impacting on policy implementation, which is another factor of critical importance to ensure policy success.** This is reiterated by Hogwood and Gunn (1984) and Jun Li (2006), who argue that external factors play a significant role towards the success of the policy or programme. According to Rossi and Freeman (2004), social programmes operate in environments in which ordinary or natural sequences of events, influence outcomes. Environmental analysis is important in the sense that “it increases the reaction time which will enhance intelligent planning that will increase the probability of avoiding errors of panic” (Bates and Eldredge 1980).

It is necessary to examine whether the two governments introduced measures to deal with external circumstances beyond the implementing agency, which is the China National Agricultural Development Group Corporation (CNADC). It is also necessary to examine opportunities that will shape the policy and strategy over the long-term due to the fact that they destroy and create opportunities. With regard to the implementation of the bilateral agreement on SAATDC, the two governments did introduce measures to deal with the environmental factors that might arise during the implementation process. In this regard, the implementing agencies introduced a number of measures to deal with environmental factors that could have affected or influenced the implementation of this bilateral policy (SAATDC 2009). In addition, SA appointed an assistant to assist the CNADC technical team with project construction. SA also handled all human resource matters that arose during the construction period, such as employment, conflict resolution, dismissal of local workers and health and occupational safety. Moreover, SA assisted the Chinese with matters related local authorities, organisations and individuals. These are some of the measures that were introduced to address environmental challenges that arose during the implementation. External factors played a substantial role towards the accomplishment of the programme. China was the project funder. The Chinese appointed the CNADC to implement the SAATDC bilateral agreement on its behalf. All the allocated funds to run the project were issued to the CNADC to conduct all the construction work.

**Also of critical importance to ensure policy success is to ensure that there are adequate resources for implementation.** According to Fesler and Kettl (2007), resources, both in terms of funds and skilled personnel, are often inadequate for the implementation of government programmes. Both financial and human resources are critical to the successful implementation of the SAATDC. It is obvious that without funds, staff cannot be hired, and implementation cannot take place. Insufficient funding can be a dilemma before a policy gets implemented (Jun Li 2006). Kraft and Furlong (2007)

state that all government agencies and programmes depend on a continuing supply of funds to operate and carry out the various activities of policy implementation.

Before a policy is implemented there must be adequate resources, otherwise the policy will fail. There must be adequate funds to ensure effective implementation of the policy or programme (Hogwood and Gunn 1984). In most cases policies that require long period of implementation are costly, and it is therefore necessary to have contingency measures to address shortage of funds. The Chinese government has offered an amount of 30 Million Chinese Yuan equivalent of 33 Million SA Rand's for the construction of the Agriculture Demonstration Centre. The implementation contract clearly stipulates contingency measures to ensure availability of additional resources if required. This simply considers whether additional funds will be available if required. There are also measures that are clearly stated in the contract (SAATDC Agreement 2009). In this regard, the two countries agreed that in the case of any delay of the construction caused by the Chinese side, the newly added construction costs thereof will be borne by the Chinese side and the construction period will be extended accordingly. In the case of construction delay caused by the SA side, SA will be responsible for the costs and the project will be extended accordingly. These contingency measures were introduced to ensure that implementing agencies had adequate resources at their disposal. The implementing agencies therefore did not face any shortage of funds in the implementation of the first phase of the SAATDC bilateral agreement.

**Another important aspect to ensure success of the project was to ensure that there was administrative capacity for implementation.** One problem that is frequently encountered in policy implementation is the lack of adequate staff to the task, in both numbers and training (Edwards and Sharkansky 1978). The policy or programme implementation instructions can be clear, but if the personnel responsible for carrying out policy are inadequate or lack resources to effectively implement the programme, the results will be disappointing (Winter 2003). For SA and China to have the effective implementation of the bilateral agreement, there was a need for those who implemented the policy to have relevant skills in order to be able to implement the policy successfully.

The CNADC (China National Agricultural Development Group Corporation), is the main implementation agency, and is a centrally organised agricultural enterprise, under the control of the State-owned Assets Supervision and Administration Commission of the State Council of China (SASAC) (China National Agricultural Development Group Corporation Online 2010) The CNADC has intangible requirements of leadership, motivation, commitment, willingness, courage, and endurance to change plans into actions which will allow it to effectively implement the bilateral agreement (Tshetlo 2013). It has the mandate and support of the Chinese and SA government. The key actors or implementing agencies have the knowledge and skills needed to fulfil the roles that they are supposed to play in the policy implementation process.

**The successful implementation of policy is also dependent upon the existence of valid causal theories about the problem that the policy intends to address** (Younis

1990). Policies which are not solidly based on scientific knowledge or experimental data will be likely to be called into question when they are given practical effect. Understanding the fundamental cause of the problem means that the policy makers will have an accurate theory of causation (Birkland 2001). Usually policies that are not based on accurate theory of causation are more likely to fail. The SAATDC bilateral agreement seeks to address challenges (skills and technology) faced by SA in the agricultural sector specifically in the aquaculture sector. "Despite phenomenal growth in global aquaculture, SA's contribution has remained disconcertingly low, accounting for less than 1% of the African aquaculture production. The SA-China bilateral policy on the SAATDC is intended to support SA in addressing factors that contributes to SA's low production in aquaculture" (Tshetlo, 2013:72).

**In order to have a successful policy implementation, there must also be a minimal dependency relationship between the implementing agencies (CNADC, and Department of Agriculture, Forestry and Fisheries (DAFF), and other agencies (other government departments namely Department of Home Affairs (DHA) and SA Revenue Services (SARS).** According to Hogwood and Gunn (1984), once the number of influential agencies in the implementation process increases, the chances of having a successful policy implementation is reduced. If the implementing agencies are too dependent on other agencies for the success of the policy implementation, this could reduce the effectiveness of the policy. "Some of the government departments that plays a significant role in the implementation of the SAATDC Centre include the Department of Home Affairs (DHA), the DAFF, the Department of International Relations and Cooperation (DIRCO) and the Department of Trade and Industry (DTI), the Free State Provincial Government and the SA Revenue Services (SARS)" (Tshetlo, 2013). These departments had an influential role in the implementation of the SAATDC bilateral policy (Tshetlo, 2013). All these departments were important for the success of the project, which means the dependency relations were excessive, which could affect the effective implementation of this policy between SA and China. These departments will continue to play a role in the remaining two phases of the project (Tshetlo, 2013).

**Also of critical importance for successful policy implementation is to ensure that the objectives of the project are clear.** Firstly, it is important to examine whether the policy contains clear and consistent objectives and secondly, to examine whether there was an agreement on the objectives that needed to be achieved with the SAATDC. Bilateral policies between SA and China are often pieced together as coalition products, the result of intense negotiating and compromise between the two governments. According to Gerston (2004), based on the complex negotiations involved in the path to adoption of a new policy or agreement, the policy makers may stress several goals simultaneously. The SAATDC has two main goals firstly, the transfer of skills and secondly, technology transfer. There must therefore be a clear understanding of the objectives that are to be achieved (Hogwood and Dunn 1984). It is evident that the objectives of the SAATDC are clear. This project was an upgrading or a revitalisation of the Xhariep Dam Fish Breeding Station of SA. The project intended to help local aquaculture sector in freshwater experimental aquaculture research and technology

demonstration, to carry out promotion and personnel training. The two governments wished to share best practices, and cooperate in poverty alleviation, application of appropriate technology, rural development and jobs creation” (FOCAC Action Plan 2006) and (Tshetlo, 2013).

**It is important to also examine whether tasks were clearly specified in the SAATDC bilateral agreement.** For SAATDC bilateral agreement to be successfully implemented, tasks must be clearly defined. It is important to note that, if the roles are not carried out in the correct sequence the policy could fail. The SAATDC bilateral agreement clearly indicates roles of all the role players in the implementation of the project. Roles are divided into the responsibilities of the Chinese and the SA governments’. In terms of the agreement, China was responsible for conducting a professional study of the project, and undertook the project design and construction. The Chinese were also responsible for conducting professional and engineering investigation which covered the selection of the project location and determination of the boundary line of the SAATDC. Further to that, the Chinese side was responsible for the collection of the required technical information for project design and also investigates the construction material and special construction requirements in local areas in SA. The Chinese were responsible for the project design such as design work of all the building, ancillary works and outdoor construction works within the boundary line on the basis of the investigation and the scope and scale of project design, building and construction area (SAATDC Agreement 2009). The Chinese were therefore responsible for all the construction work.

In terms of the agreement signed between the two countries, the SA government had the responsibility to provide the construction license and the land use license (SAATDC Agreement, 2009:3). The agreement signed by the two governments also stipulated that SA will remove and clear all the existing architectures within the boundary lines of the project, including all the obstacles from the construction foot print area. SA was also expected to level the ground at the construction site (SAATDC Agreement, 2009:3). SA was responsible for the connecting the pipelines for water and power supply, communication lines, sewage systems and road to the construction site. It was also required to provide the safety barriers inside the construction site and levels the ground in accordance with the engineering design drawings and ensures smooth traffic roads from outside to the construction site (SAATDC Agreement 2009). SA was responsible for providing exemption from all the import taxes and other levies on construction equipment material, machinery, traffic vehicles, oil, and fuel which were necessary for the project construction. It was also responsible for providing CNADC staff daily necessities, medicines, and office (SAATDC Agreement, 2009:3). Furthermore it was entrusted with the responsibility to provide assistance with customs clearance, taking delivery of cargo and cargo custody upon the arrival of the construction equipment, material and machinery provided by CNADC (SAATDC Agreement 2009). It can therefore be concluded that the tasks were clearly specified in the bilateral agreement. In this regard it can be said that tasks or responsibilities were fully specified or allocated as one of the pre-conditions for the successful implementation of the bilateral policy.

For the policy to be successfully implemented there is also a need for the implementing agency to have authority to obtain compliance with the policy. The implementing agency should have authority including power to go to court to seek enforcement of the policy (Edwards and Sharkansky 1978). This indicates that there is a need for CNADC to have authority to obtain compliance with the policy. The CNADC on its own did not have any authority to obtain compliance with the bilateral policy. However to acquire compliance implementation with the SAATDC, the two governments introduced a number of measures to deal with factors that could affect or influence the implementation of this bilateral policy which requires compliance with the bilateral policy. All factors that require compliance were allocated to SA. The SA government appointed an assistant to deal with aspects that requires compliance. Areas that required compliance includes, employment and dismissal of local workers, exemption from all the import taxes and other levies on construction equipment material, and machinery. These are some of the elements the CNADC as the implementation agency required compliance from. The CNADC on its own did not have authority to obtain compliance on the above mentioned aspects however its success depended on the SA government whereby DAFF should provide assistance.

**Also of critical importance to successful policy implementation is for the project to be adequately aligned to SA government priorities.** According to Goody (2009), if foreign aid projects are aligned to domestic priorities, they could improve aid effectiveness. By improving aid effectiveness, the impact of the project could be enhanced. The Department of Agriculture Forestry and Fisheries (DAFF) has identified a number of factors constraining the aquaculture sector growth in SA. Such challenges include limited capacities (expertise and aquaculture professionals), the lack of technical skills and support, high feed, equipment and technology costs, limited government support, veterinary services and disease management, lack of species choice and good seed stock, complex resource-based legislation and the lack of marketing services and access to finance (Department of Agriculture Forestry and Fisheries 2007). The SA government has repeatedly identified aquaculture skills as one of the government priorities. The absence of capacity in the aquaculture sector has been acknowledged as one of the issues that contribute towards meager performance of SA aquaculture sector. However, the objectives of the bilateral agreement on the SAATDC highlight its significance to the SA priorities. Nonetheless, it is important to determine the impact of the project.

### **The impact of SAATDC**

With China training 500 technical staff at the SAATDC per year, it means 500 people are absorbed in the aquaculture sector during the each year of the project. The establishment of the SAATDC has contributed towards establishing a viable aquaculture sector, which has contributed towards sustainable jobs creation and poverty alleviation for the people within the vicinity of the Gariep Dam and beyond (Tshetlo 2013). Ellender, Weyl, Winker and Booth (2010), reported that there are 450 regular anglers (anglers refer to fishing with a rod, line and hook), at Gariep Dam. These anglers lack

formal training which hinders their effective participation in the fisheries industry. However, the training provided to them has been beneficial.

**It is also important to determine if the aid project fully exploited for the benefits of the local South African workforce.** During the construction phase the bilateral agreement made provision for the involvement of the local South African people. However the provision provides for general labour, support services and not technical skills. In terms of the agreement signed between the two countries, SA responsibility was limited to the administrative functions or support services. The Chinese engineers were responsible for all technical work including conducting a professional study of the project, undertaking the project design and its construction. The agreement makes no provision for the involvement of SA engineers which limits the extent of skills transfer during the construction phase of the project.

The development of project management capacity is also one of the SA government priorities. This means there was a need for greater SA involvement in all phases of the construction of SAATDC (Tshetlo 2013). This included conducting a professional study of the project, undertaking the project design and construction. JIPSA identified “the scarcity of project management capacity, as one of the aspects that triggers service delivery failure and slow implementation of capital expenditure programmes” (Tshetlo 2013). These problems are exacerbated by the lack of adequate technical skills, to undertake feasibility studies, project costing and monitoring. The Chinese engineers were responsible for all technical work. This included undertaking a professional study of the project, and conducting the project design and construction (Tshetlo 2013).

SA failed to put in place measures or to leverage on the opportunities provided by the bilateral agreement on the establishment of the SAATDC. It failed to seize opportunity to increase its skills based particularly to increase artisans and engineering skills, during the construction phase of the project. There is therefore an absence of mechanisms that seeks to take advantage of construction of the SAATDC to ensure artisans and engineering skills transfer. SA was not aggressive enough in engaging China to maximise skills transfer during the project.

## **Analysis and Findings**

In an analysis of the implementation of the SAATDC bilateral agreement it was found that adequate resources were made available to allow for its successful implementation. Contingency measures were put in place to ensure that additional funds are available should they be required. The agreement was that in the case of any delay of the construction caused by the Chinese or the CNADC, the newly added construction cost thereof was borne by the Chinese and the construction period was extended accordingly and the construction delayed by SA, the SA government carried the costs and the project was extended accordingly. During the implementation of the first phase of the project, there was a shortfall of R18 Million on the operational costs, for the years 2010 and 2011 (DAFF Progress Report on Aquaculture Cooperation 2010). To address the problem, a formal request was made to the Chinese government for additional

funds. The Chinese responded positively and the shortfall was taken care of. The pre-condition for effective policy implementation was therefore met and adequately addressed with respect to these aspects of the agreement.

Other findings reveal that the key actors or implementing agencies had adequate knowledge and skills needed to fulfil their roles in policy implementation. Taking into consideration the background of the CNADC and its extensive experience, it can be concluded that there were adequate staff both in numbers and training to allow for the effective implementation of the agreement. However, the lack of technology and capacity in the aquaculture sector has been identified as two factors that caused poor performance of the aquaculture sector. These are the key problems that the agreement intended to address; but this pre-condition of effective policy implementation was not adequately addressed.

On a different note, it can be concluded that the extent of dependency of the implementation agency on other agencies was high. There are a number of possible threads that threatened the effective implementation of this bilateral policy. The implementing agencies were excessively dependent on the other agencies such as DHA and the SARS for the success of the policy implementation. In addition, the goals and objectives of the SAATDC were clear. Similarly, it was found that tasks were fully specified in the bilateral agreement. There was also effective communication and co-ordination before and during the implementation of the bilateral agreement (Tshetlo 2013). SA and China launched strong communication platforms between the implementing agencies, which strengthened communication. It also promoted participatory processes, to better understand and address internal and external issues affecting the implementation of the bilateral agreement (Tshetlo 2013). Therefore these pre-conditions for effective policy implementation were adequately addressed in the bilateral agreement.

With regard to compliance, the CNADC on its own did not have authority to obtain compliance in employment and dismissal of local workers, obtain exemption from the import taxes and other levies on construction equipment materials, and machinery. Its success depended on the Free State Provincial Government and the SA DAFF. In this regard, this aspect was adequately addressed to ensure smooth implementation. This pre-condition for effective implementation was therefore met.

On another note, external circumstances did not negatively affect the implementation. The possibilities of implementation failure were very limited. Possibilities for bad execution were limited due to extensive experience the CNADC has. Finally, the agreement was formulated in such a way that external circumstances do not hamper its implementation.

There were a number of challenges that were reported during the construction period, which were effectively addressed by the implementing agencies. Such challenges included (DAFF Progress Report on Aquaculture Cooperation 2010): delays with the tax claims, delay of water connection and compliance with local regulations and standards in terms of electrical installation and fire reticulation system. To address these

challenges, the Minister of DAFF and the Chinese-Vice-Minister met in 2010. The two Ministers agreed to strengthen the cooperation through prioritising the work of the joint working group and to track the progress on the implementation of SAATDC.

Also importantly to note, the implementation agency had adequate political support. CNADC and DAFF had adequate financial resources to implement the SAATDC bilateral agreement. CNADC had administrative capacity to implement the SAATDC agreement. Moreover, the SAATDC programme was adequately aligned to government priorities and it has already made significant contribution towards SA aquaculture sector development. Aid played an important role in reducing poverty, increasing growth, building capacity, and achieving human development as required by the SA government.

In summary, it is anticipated that in the implementation of the second phase of the SAATDC agreement, the young professionals and new graduates who lacks practical skills in the aquaculture sector will receive training. In order for skills transfer to take place in the SA Aquaculture Sector, there is a need for a skills transfer plan and strategy which the SAATDC agreement serves. The weaknesses of the bilateral agreement can be attributed to the policy formulation stage and not policy implementation stage. The SAATDC bilateral agreement is a good policy and the first phase was successfully implemented, however there are fundamental weaknesses that reduced the impact it has on SA skills development. During the formulation stage, the SA government failed to put in place measures or to leverage the opportunities presented by the bilateral agreement on the establishment of the aquaculture sector. It failed to seize opportunity to increase its skills base particularly on increasing artisans and engineering skills during the construction phase of the project.

The engineers for the project were all Chinese and they were responsible for all technical work including conducting a professional study, project design and construction. The agreement makes no provision for the involvement of the SA engineers which limits the extent of skills transfer. The bilateral agreement does not make any provision to encourage and facilitate ongoing learning and professional development for engineering professionals. Necessary avenues for the exchange of information and sharing of experiences regarding engineering practices were not adequately provided for. The bilateral agreement was therefore not tailored to in such a way that ensures transfer of engineering and artisans skills.

### **Recommendations**

The bilateral agreement was not fully exploited for the benefit of the South African workforce. There is a failure by the SA government to put in place guidelines and measures to address negative aspects of the Chinese aid which minimizes the positive impact of the Chinese aid programmes. This necessitates a need for policy guidelines which will ensure that such measures are put in place in future.

1. There is a need for clear policy guidelines that would guide SA government departments in the formulation and implementation of bilateral agreements.

2. There is a need for the SA government to provide guidelines and recommendations as to how bilateral agreements for the implementation of foreign aid programmes should be formulated, developed and implemented. The DIRC is in an excellent position to develop effective guidelines to assist in ensuring that bilateral agreements based on implementing foreign aid programmes address the SA government priorities.
3. The policy guidelines should serve to provide a basis for formulating the content of bilateral agreements and should also provide general policy directions. It should assist in channeling actions, decisions and practices of various government departments in a direction that promotes government priorities (skills and technology transfer). The guidelines would provide guidance with regard to the implementation of bilateral agreements and provide officials negotiating bilateral agreements with a framework in which bilateral agreements should be formulated. The guidelines would also ensure compliance with the government priorities and domestic needs.
4. There is a need to encourage collaboration between SA companies and foreign companies if the government is committed towards skills transfer particularly with regard to addressing SA's artisans and engineers' shortage. To maximise the benefits of the Chinese aid projects, it should be ensured that technical skills are not only imported but transferred. This can be ensured by ensuring that Chinese companies not just employ general workers in SA but technical workers as well.
5. Partnership with the SA companies should be encouraged to ensure that technical skills transfer take place. It is important to note that if SA needs to develop its skills development to a high level of sophistication, there is a need to introduce guidelines which will allow it to secure key capabilities. When implementing the SAATDC agreement, there was a need to encourage a partnership between the CNADC and local companies. There is a need to enhance the sophistication of the local artisans. Forming a partnership with SA companies in the implementation of foreign aid projects will allow local companies to enhance their competence. Partnership will also allow local companies to enhance their competitive strength through a certain level of transfer of technology and capability.

## **Conclusion**

The benefits of the SAATDC bilateral agreement reflect that skills transfer during the construction phase, were not fully exploited by the South Africans in the implementation stage. However, the post-construction skills and technology transfer phase were addressed. With regard to the post-construction skills transfer, the agreement was adequately aligned to SA priorities. With regard to the skills transfer during the construction, it is concluded that the SAATDC bilateral agreement was not fully

exploited for the benefits of the local workforce (artisans and engineers). There was failure to involve SA engineers, artisans or SA companies in conducting a professional study of the project, formulation of the project design and construction plan which limits the impact of the Chinese development aid on ASGISA and JIPSA objectives. There is a need to enhance the sophistication of local artisans and engineers as required by the ASGISA and JIPSA, but such opportunities were not provided by the SAATDC.

With regard to the post-construction skills transfer, the governments of China and SA agreed to share best aquaculture practices. By raising performance through transfer of skills, the SA Aquaculture Sector was able to improve its profitability and production. Furthermore skills transferred ensured availability of adequate human resources for expansion into new aquaculture sectors around SA. China has assisted SA in overcoming its domestic aquaculture constraints including, poor storage facilities, lack of research facilities, shortage of appropriate breeds due to absence of expertise and poor management practices. The SA aquaculture sector has significantly gained from the SAATDC agreement in terms of infrastructure development, and dissemination of improved technology, improved extension and training facilities and increased provision of training for farming communities. Further to that, the newly upgraded aquaculture centre has enabled SA to increase its fish production. The sector has generated employment and therefore helped in terms of poverty alleviation. The establishment of the SAATDC has significantly contributed towards the SA government's agro-processing initiatives. Agro-processing could play an important role in supporting economic development, and thus contribute to economic inclusion. Agro-processing can increase the viability, profitability and sustainability of production in the fisheries sector in the Xhariep District. Agro-processing could increase incomes of primary producers, create employment and foreign exchange earnings, and address the market risks associated with primary agricultural production in Gariep Dam.

## **Bibliography**

Bates, L. D., & Eldredge, D.L. (1980). *Strategy and policy: Analysis, formulation and implementation*. Dubuque, Iowa: W.C. Brown Company publishers.

Bozeman, B. (2013) What organization theorists and public policy researchers can learn from one another. Publicness theory a case in point. *Sage Journal*. 3.4, 169-168.

Birkland, T. A. (2001). *An Introduction to the policy process*. New York: ME Sharpe Inc.

China National Agricultural Development Group Corporation (CNADC) [Online]. <http://www.cnadc.com.cn/ds/enp/index.asp>. (June 6, 2010)

Dunn, W. N., (1994). *Public policy analysis: an introduction*. New York: Englewood Cliffs, N.J., Prentice Hall, H.N Abrams.

Edwards III, .G. C., & Sharkansky, I. (1978). *Policy Predicament: Making and implementing public policy*. San Francisco: W.H Freeman and Company.

Ellender, B. R, Weyl, O. L. F., Winker, H. & Booth, A. J. (2010). Quantifying the annual fish harvest from SA's largest freshwater reservoir. *Water SA*, 36, 45-51. Also available on website: <http://www.wrc.org.za>

Fesler, J. W., & Kettl, D. F. (2007). *The politics of the administrative process*. New Jersey: Chatham House Publishers, Inc.

Food and Agriculture Organisation of the United Nations (FAO). (2011). *Aquaculture Development: Use of Wild Fish as Feed in Aquaculture*. Rome, Italy: FAO Publications.

Forum on China-Africa Cooperation Beijing. (2007-2009) *Action Plan*. Beijing, China. Also available on: <http://www.chineseembassy.org.za/eng/zfhzlt/t281763.htm>. [Online] (10 October, 2011)

Forum on China-Africa Cooperation (FOCAC) (2010-2012). *Action Plan*. (2009). Egypt: Sharm El Sheikh, Also available on: <http://www.chineseembassy.org.za/eng/zfhzlt/t281763.htm>. [Online] (10 October, 2011)

Gerston, L. N. (2004). *Public policy making. Process and principles*. New York: M.E Sharpe Inc.

Goody, A. (2009). *International Development: The aid effectiveness debate*. Canada: Library of Parliament, International Affairs, Trade and Finance Division.

Hogwood, B. W., & Gunn, L. A. (1984). *Policy analysis for the real world*. Great Britain: Oxford University Press.

Idun-Arkhurst, I., & Laing, J. (2007). *The impact of the Chinese presence in Africa: An africapractise report prepared for Jetro*. London: David and associates.

Jun, Li. (2006). *Analysis of the implementation of Teacher Education Policy in China since 1995. A case study. Doctor of Philosophy*. USA. University of Maryland.

Karaan, M. (2005). *Western Cape Microeconomic Strategy Project: Fishing and Aquaculture Sector, Trends, Issues, Repositioning Strategies and Policy levers Part II*. Cape Town: University of Stellenbosch.

Kraft, M. E., & Furlong, S, R. (2007). *Public Policy: politics, analysis, and alternative*. Washington: CQ Press.

Mazmanian, D. A., & Sabatier, P. A. (1983). *Implementation and Public policy*. Glenview, Illinois: Scott, Foresman and Company.

Mlambo-Ngcuka, P., (2006). *Background Document: A Catalyst for Accelerated and Shared Growth-SA (ASGISA)*. Media Briefing, 6 February 2006.

Naidu, S., (2008). *Balancing a Strategic Partnership? SA-China Relations in, Crouching Tiger, Hidden Dragon*. Edited by Ampiah, K., & Naidu, S. Pietermaritzburg: University of Kwazulu-Natal Press.

Pere, G., & Shelton, G., (2007). *China, Africa and SA. South-South co-operation in global era*. Johannesburg: Institute for Global Dialogue.

Rossi, P. H., Freeman, H. E., & Lipsey, M. W. (1999). *Evaluation: a systematic approach*. Thousand Oaks, California: Sage publications.

South Africa. (2006). *Policy for the development of a sustainable aquaculture sector in South Africa*. Pretoria. Department of Environment and Tourism.

South Africa. (2007-2010). *Strategic Plan*. Pretoria. Department of International Relations and Cooperation.

South Africa. (2007). *Policy for the development of sustainable inland Aquaculture Sector in SA*. Pretoria. Department of Agriculture Forestry and Fisheries.

South Africa and China. (2007). *Contract on the implementation of design and construction of the South African Agricultural Technology Demonstration Centre in Gariiep Dam*. Free State Province, Bloemfontein. SA.

South Africa. (2008). *Annual report on Accelerated and Shared Growth Initiative for SA (ASGISA)*. The Presidency. Pretoria: Government printers.

South Africa. (2008). *A National Industrial Policy Framework*. Pretoria. Department of Trade and Industry.

South Africa. (2010). *Report on Technology for Sustainable livelihood*. Pretoria. Department of Science and Technology.

South Africa. (2010). *Progress Report of the Agricultural Technology Demonstration Centre project in Free State Province*. Pretoria. Department of Agriculture Forestry and Fisheries.

South Africa. (2010). *Report on the update on Agricultural Technology Demonstration Centre project*. . Department of Agriculture Forestry and Fisheries.

South Africa. (2010). Department of Home Affairs. [www.home-affairs.gov.za](http://www.home-affairs.gov.za). [Online] (10 October 2011)

South Africa. (2010). Department of Agriculture, Forestry and Fisheries. [www.daff.gov.za](http://www.daff.gov.za). [Online] (10 October, 2011)

South Africa. (2010). Department of Trade and Industry. [www.thedti.gov.za](http://www.thedti.gov.za). [Online] (10 October, 2011)

South Africa. (2010/2011). *Integrated Development Plan Draft*. Free State. Xhariep District Municipality.

South Africa. (2011). *A profile of the South African Aquaculture Market Value Chain*. Pretoria. Department of Agriculture Forestry and Fisheries. Also available on: [www.nda.agric.za/docs/AMCP/AquacultureMVCP11-12.pdf](http://www.nda.agric.za/docs/AMCP/AquacultureMVCP11-12.pdf). [Online] (10 October, 2011)

South Africa. (2011-2012). *Strategic Plan*. Pretoria. South African Revenue Service (SARS).

Tshetlo, P. T. (2013). *An analysis of the implementation of the SA-China Bilateral Agreement: A case study of the South African Agricultural Technology Demonstration Centre*. Unpublished Masters Thesis. University of South Africa

Winter, S. C. (2003). *Implementation*. In B. G. Peters, & J. Pierre J. (Eds), *Handbook of Public Administration* (pp 205-211). London: SAGE Publications.

Younis, T. 1990. *Implementation in Public Policy*. Aldershot, Brookfield, USA: Dartmouth Publishing Company Limited.