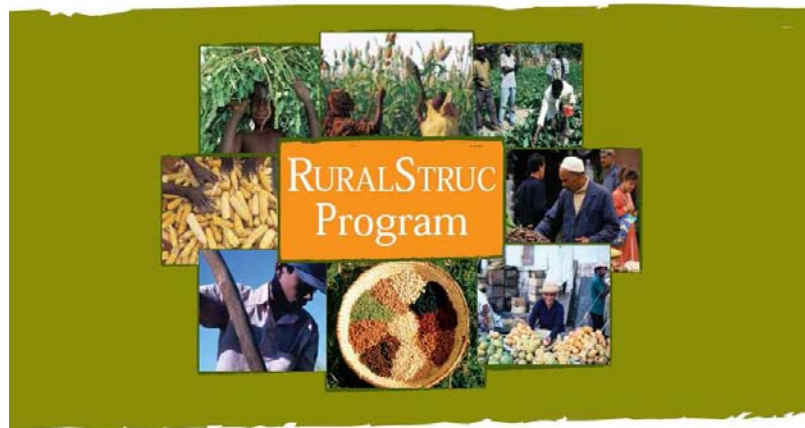




Structural Dimensions of Liberalization on Agriculture and Rural Development



Background, positioning and results of the first phase

June 2008



Enabling poor rural people
to overcome poverty



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Executive summary

In a context of renewed general interest in agriculture, emphasized by the recent food price increases, the RuralStruc Program provides an additional perspective to an international debate that was long-focused on trade liberalization. Beyond trade, the program addresses the structural dimensions of globalization and their implications for the agricultural sector in perspective with the economic transition of developing economies.

The objective of this three-year program, launched in 2006, is to strengthen the policy debate on renewed thematic issues. Adopting a comparative approach, the program engages seven countries that correspond to different stages of the process of economic transition and where agriculture plays different roles (Senegal, Mali, Kenya, and Madagascar; Morocco, Nicaragua, and Mexico). It focuses on the changes underway within each respective rural economy and aims at discussing the consequences of these changes in terms of policy implications.

Activities in each country are conducted by local research teams and supported by local institutional partners. Desk studies and knowledge-sharing workshops implemented during the first phase of the program provide first insights on what is known and allow the highlighting of several decisive issues for policy-making.

The central role of agriculture in the process of development

In many developing countries, particularly in Sub-Saharan Africa (SSA), agriculture still plays a central role in both the global economy (GDP, trade, and labor force) and in the livelihood of the majority of the population. This evidence – so often trivialized – is not insignificant: it means that the debate on agriculture must be put into perspective with the existing economic alternatives in terms of growth and employment.

Due to the current stage of structural transformation of many low-income and lower-middle-income countries and to the difficulties of economic diversification within the high competition of a global open economy – if compared to other periods of the world history – the evolution of agriculture in the next decades remains critical for development. Presently, this evolution is occurring in a unique situation where the process of economic development must deal with the challenges of globalization and unachieved demographic transitions.

The challenge of on-going demographic transitions

The RuralStruc Program countries illustrate very different situations regarding demographic transition. While Mexico, Morocco, and also Nicaragua, are deeply engaged in their demographic change, with decreasing population growth rates, the SAA countries face a booming evolution – the fastest in the world today (the other rapidly growing

region being South Asia) – with a sub-continent population that could increase twofold between 2010 and 2050 (reaching 1.7 billion people in the mid-century).

This population growth should translate in a massive increase of the labor force: presently in Sub-Saharan Africa the yearly cohort of new economically active population is around 10 million people and should reach a peak near 20 million in the 2030s. For a median SSA country – e.g. 15 million people today – the yearly cohort is 250,000 in the 2000s and is expected to be 450,000 in the 2030s.

This predicted “demographic dividend” follows several decades of extremely low activity ratios (with around only one active person for one inactive), which appears to have been a heavy burden on Sub-Saharan Africa’s growth, as the African economies were dealing concurrently with liberalization and structural adjustment processes. This demographic dividend can be a major opportunity, provided that the engines of growth are strong enough to absorb the expansion of the labor supply. It requires a strong economic diversification, while the economic structure of the Sub-Saharan economies has little evolved over the last four decades. Indeed, the fast-growing urbanization of the continent has been characterized by very low industrialization, recurring unemployment and underemployment. Job creation is mainly concentrated in the informal sector, in both rural and urban areas, which is characterized by low productivity and low-paid jobs that do not ease assets accumulation and consumption increase.

In the cases of Mexico, Morocco and Nicaragua, by contrast, international migration appears to be a major alternative to the insufficient pace of job creation, and hence played and still plays a major role in the transition process (not to mention significant industrialization dynamics in a country like Mexico). With around 10% of their population living abroad in better-off countries, these countries access a powerful additional alternative, which facilitates their economic transition (as European migrations to the “new worlds” did in some way for the European transitions). In the current context, this pattern appears difficult to reproduce at the same level for SSA countries.

The challenge of agriculture facing globalization

The growing labor force puts additional pressure on agriculture in countries where the sector occupies the main share of the employment structure. As a consequence, the evolution of agriculture and its continuing absorption capacity will be determinant in managing the transition, knowing that family labor and self-employment have always been and remain major features of the agricultural sector. This is a major issue in SSA, as well as in countries like Nicaragua or Morocco, where the population sustaining its livelihood from the sector still has a significant weight.

In developing countries, agriculture currently faces two main processes of change related to globalization. The first process is a direct consequence of a more global open economy boosted by increasing long-distance trade, where agricultural systems with very different competitiveness and public support levels confront each other on the same international markets. Farmers around the world have to deal with productivity gaps ranging from 1 to 1000 (e.g. in the case of cereals, the gap between manual systems without a “Green

Revolution package” and highly intensified, motorized, and sometimes subsidized systems). These gaps are a main issue because competitiveness does not only mean costs and quality of products, but also supply capacity, which determines market shares (and the ability to provide for both local and international markets). Simultaneously, public supports (direct income or credit supports or indirect risk management) help OECD producers to cope in radically asymmetric ways with economic or natural constraints.

The second process relates to the global restructuring of agrifood systems where vertical integration along the value chains and the development of new distribution networks, related to growing demand-driven markets (the “supermarket revolution”), offer new major opportunities but also modify the rules of the market game. Stricter food safety and quality standards, strong requirements of high-value products or supermarkets’ procurement systems imply a significant capacity of adaptation for the producers. This trend reinforces differentiation among farmers, depending of their own assets (skills and capital) and market access (for which public goods provision – typically infrastructure and information – is decisive).

The extent of these processes’ development is eminently variable among countries, regions, and commodity chains. High-requirement markets and the related development of contracts remain limited and contrasted in Sub-Saharan Africa, where they mainly concern horticulture in a broad sense. In Mexico and Nicaragua, procurement systems are more developed and also include dairy and other animal products. In SSA, a few tens of thousands of farmers are concerned in each country while hundreds of thousands and millions are engaged in traditional staple or export productions.

Agriculture, its alternatives and the reshaping of rural economies

In this context of uneven opportunities, a vital issue for producers is their ability to accommodate a competitive economic environment and its existing and growing constraints: increasing prices of inputs, difficulties of access to production factors, or consequences of degradation of natural resources (the two latter being sometimes exacerbated by demographic pressure).

Even if the current food price increases can strongly improve the situation of the net producers, the core issue is the capacity of different groups of farmers to cope with an evolving context where risk management depends heavily on their assets. While some producers are able to deal with both opportunities and constraints and others are forced to diversify their activities and income sources to sustain their livelihood, many are not able to adapt and are pushed out agriculture and, sometimes, from the countryside.

Of course, the patterns of these adaptation processes mainly rely on the existing economic alternatives, locally, regionally and nationally, and sometimes abroad, through internal and international migration. Even if they are unevenly documented, more complex and diversified systems of activities and incomes are progressively reshaping the rural economies. However, the critical question remains the extent to which adaptation can occur and contribute to the global process of economic transition.

First lessons for policy making

Due to the central role of agriculture in the process of economic transition of many developing countries, agricultural policies must be carefully designed and articulated with other sectoral policies. Particular attention must be paid to adequate sequencing, with policies facilitating economic diversification and employment creation in both urban and rural economies (investment climate, public goods, capacity building). This global approach must be part of the rehabilitation of development strategies.

The lack of adequate information about the on-going transformation processes, which remain poorly studied, is a major issue for the policy-making. One priority should be to reengage in the design and the management of information systems, able to capture the new realities, because they are a cornerstone for the definition of adequate public policies. Similarly ownership of the policy-making process can be facilitated by the direct involvement of national expertise in addressing the knowledge challenge.

Due to the strategic positioning of the employment issue, agricultural policies must target the “many” and address and support, as a priority, the value chains offering the largest opportunities in terms of activities and income generation. In this perspective, and due to the higher requirements of, and competition within, the demand-driven markets, national and regional food markets offer high potential for development with lower constraints. This positioning favors the promotion of an inclusive model of development dealing with the challenge of a growing labor force. In the same way, policy options must avoid the selection of stand-alone technical solutions that target one-to-one objectives. This is typically the case of productivity increase, which is an indisputable objective in the perspective of sector growth, income distribution, and poverty alleviation, but must, at the same time, consider the employment dimension of technical choices.

Finally, it appears that the quality of the policy debate will be determinant in addressing the complexity and uniqueness of agriculture-based countries’ economic situations. The adoption of a broad perspective that positions the future of agriculture in the global picture is essential to renew the existing debates at national, regional and continental levels and to deal with the challenge of simultaneous economic and demographic transitions within globalization.

Résumé exécutif

Dans un contexte marqué par un nouvel intérêt pour l'agriculture, largement stimulé par la récente augmentation des prix des produits alimentaires, le programme RuralStruc offre une perspective renouvelée dans un débat international longtemps dominé par les questions de libéralisation commerciale. Adoptant une approche globale en termes de transition économique, le programme s'intéresse aux dimensions structurelles de la mondialisation et à leurs implications sur le secteur agricole des pays en développement.

L'objectif de ce programme comparatif de trois ans, lancé en 2006, est de renforcer le débat sur les politiques publiques par des questions thématiques renouvelées. Engagé dans sept pays correspondant à différentes étapes dans le processus de transition économique et où l'agriculture joue des rôles différents (Sénégal, Mali, Kenya et Madagascar ; Maroc, Nicaragua et Mexique), le programme met l'accent sur les transformations en cours au sein des économies rurales et examine leurs conséquences en termes d'implications politiques.

Les activités sont mises en œuvre dans chacun des pays par des équipes de recherche nationales avec le soutien d'institutions et des partenaires locaux. Les travaux de synthèse documentaire conduits au cours de la première phase du programme et les ateliers d'échange entre équipes fournissent un premier état des lieux sur ce qui est connu localement et permettent de mettre en évidence certaines questions centrales pour l'élaboration des politiques publiques.

Le rôle central de l'agriculture dans le processus de développement

Dans de nombreux pays en développement, en particulier en Afrique subsaharienne (ASS), l'agriculture joue toujours un rôle central dans les économies nationales (PIB, commerce extérieur, emploi) et dans les conditions d'existence de la majorité de la population. Ce rappel n'est pas anodin, car il signifie que le débat sur l'agriculture doit être mis en perspective avec la discussion plus générale sur les alternatives économiques existantes en termes de croissance et d'emploi.

Au stade actuel du changement structurel de nombreux pays en développement – particulièrement les pays à faibles revenus et un nombre significatif de pays à revenus intermédiaires – l'évolution de leur agriculture dans les prochaines décennies apparaît décisive. Cette situation particulière s'explique par les difficultés de la diversification économique dans un environnement international concurrentiel qui est sans commune mesure avec d'autres périodes de l'histoire car, dans ce contexte singulier, le processus de développement économique doit faire face simultanément aux défis de la mondialisation et, souvent, à des transitions démographiques inachevées.

Le défi des transitions démographiques en cours

Le Programme RuralStruc illustre des situations nationales très différentes en termes de transition démographique. Alors que le Mexique, le Maroc et le Nicaragua sont déjà très engagés dans leur transition avec une baisse importante de la croissance de leur population, les pays d'Afrique subsaharienne sont confrontés à une forte poussée démographique, la plus rapide du monde (l'autre région à croissance rapide étant l'Asie du Sud) : la population du sous-continent pourrait doubler entre 2010 et 2050 et atteindre 1,7 milliard de personnes au milieu du siècle.

Cette croissance démographique devrait se traduire par une augmentation massive de la force de travail. La cohorte annuelle de nouveaux actifs, qui est d'environ dix millions de personnes aujourd'hui, devrait avoisiner les vingt millions dans les années 2030. Pour un pays d'Afrique subsaharienne médian – soit quinze millions d'habitants - la cohorte annuelle est actuellement de l'ordre de 250 000 personnes et devrait atteindre 450 000 personnes dans les années 2030.

Ce "dividende démographique" à venir fait suite à plusieurs décennies où les taux d'activité ont été extrêmement faibles et ont pesé lourdement sur la croissance (avec seulement un actif pour un inactif), alors que les économies africaines devaient affronter au même moment les conséquences des processus de libéralisation et d'ajustement structurel. Ce dividende démographique peut représenter une opportunité majeure dès lors que les moteurs de la croissance sont suffisamment forts pour absorber l'expansion de l'offre en travail. Il renforce les enjeux de la diversification alors que la structure économique du sous-continent a peu évolué au cours des quarante dernières années. La forte poussée urbaine de l'ASS a en effet été marquée par la faiblesse de l'industrialisation et par un chômage et un sous-emploi récurrents. La création d'emplois reste concentrée principalement dans le secteur informel, tant en milieu urbain que rural, dont la faible productivité et les faibles niveaux de rémunération ne facilitent ni le processus d'accumulation, ni l'augmentation de la consommation.

En revanche, au Mexique, au Maroc et au Nicaragua, les migrations internationales semblent avoir été parmi les principales réponses à la faiblesse du rythme de création d'emplois. Sans éluder bien sûr la place de l'industrialisation dans un pays comme le Mexique, les migrations ont joué et jouent encore un rôle majeur dans le processus de transition : avec environ 10% de leur population vivant à l'étranger dans des pays à plus hauts revenus (ce qui n'est pas le cas des migrations intra-africaines), ces pays ont eu accès à une puissante alternative qui a facilité leur transition économique, à l'instar en quelque sorte des migrations européennes vers les « nouveaux mondes » dans les transitions européennes. Dans le contexte actuel, la reproduction au même niveau d'un tel schéma semble difficile pour les pays d'Afrique subsaharienne.

Le défi de l'agriculture face à la mondialisation

Cette croissance de la force de travail constitue une pression supplémentaire sur l'agriculture dans les pays où elle occupe encore la place principale dans la structure d'activité et d'emploi. Ainsi, l'évolution du secteur agricole et sa capacité d'absorption

seront déterminantes dans la gestion de la transition économique, sachant que le travail familial et l'auto-emploi ont toujours été et restent l'une des principales caractéristiques de l'agriculture. Il s'agit évidemment d'une question centrale pour l'Afrique subsaharienne mais aussi dans des pays comme le Nicaragua ou le Maroc, où l'agriculture a encore un poids significatif dans les conditions d'existence d'une partie conséquente de la population.

Dans les pays en développement, l'agriculture doit aujourd'hui faire face à deux changements majeurs liés à la mondialisation. Le premier est la conséquence directe d'une économie globale plus ouverte, stimulée par des échanges à longue distance, où des systèmes agricoles ayant des niveaux différents de compétitivité et de soutiens publics sont mis en concurrence sur les mêmes marchés internationaux. Les agriculteurs doivent y gérer des écarts de productivité allant de 1 à 1000 ce qui correspond, dans le cas des céréales, à l'écart de productivité entre des systèmes manuels sans le « paquet technique » de la révolution verte et des systèmes très intensifs motorisés et parfois subventionnés. Ces écarts de productivité constituent un problème crucial car la compétitivité ne repose pas uniquement sur des avantages en termes de coûts et de qualité des produits, mais aussi sur les capacités de production qui déterminent les parts de marché ainsi que la capacité à approvisionner les marchés tant locaux qu'internationaux. Parallèlement, les soutiens publics directs (en appui aux revenus ou en facilités de crédit) et indirects (gestion des risques) aident les producteurs des pays de l'OCDE à affronter radicalement différemment les contraintes économiques ou naturelles.

Le deuxième processus découle à la restructuration globale des systèmes agro-alimentaires marqués à la fois par l'intégration verticale des filières de produits et par le développement de nouveaux réseaux de distribution pilotés par la demande (la « révolution des supermarchés »). Ces recompositions offrent de réelles opportunités pour les producteurs, mais elles modifient aussi radicalement les règles du jeu. Le renforcement des normes sanitaires et les standards de qualité des produits à haute valeur ajoutée ou des centrales d'achat de la grande distribution impliquent une capacité d'adaptation élevée des agriculteurs. Cette évolution tend à renforcer la différenciation entre producteurs en fonction de leurs propres atouts (en termes de compétences et de capitaux) et de leur accès aux marchés (où la fourniture en biens publics – notamment infrastructures et information - est décisive).

Le développement de ces processus est évidemment très variable selon les pays, régions et filières. Le développement de la contractualisation liée au nouveau fonctionnement et aux exigences croissantes des marchés reste encore limité et contrasté en Afrique subsaharienne, où il concerne principalement les produits horticoles au sens large. Au Mexique et au Nicaragua, les systèmes d'approvisionnement sont plus développés et ils concernent aussi les produits laitiers et d'autres produits d'origine animale. Ainsi, en Afrique subsaharienne, ce sont quelques dizaines de milliers d'agriculteurs au maximum qui sont concernés par ces nouvelles filières dans chaque pays, tandis que des centaines de milliers d'autres - voire des millions - sont toujours engagés dans les productions vivrières ou les produits traditionnels d'exportation.

Les alternatives à l'agriculture et la recomposition des économies rurales

Dans ce contexte offrant des opportunités très inégales, le problème central pour les producteurs réside dans leur capacité à s'adapter au mieux un environnement économique concurrentiel et à gérer les nouvelles contraintes : l'augmentation du prix des intrants, les difficultés d'accès aux facteurs de production, ou les conséquences de la dégradation des ressources naturelles, ces deux dernières étant parfois exacerbées par la pression démographique.

Même si l'augmentation actuelle des prix des denrées alimentaires peut améliorer de manière significative la situation des producteurs excédentaires, la question cruciale reste la capacité des différents groupes d'agriculteurs à faire face à un contexte évolutif où la gestion des risques dépend principalement de leurs propres ressources : certains producteurs sont en mesure de simultanément tirer partie des opportunités et faire face aux contraintes ; d'autres sont obligés de diversifier leurs activités et leurs sources de revenus pour assurer leur subsistance ; d'autres encore ne sont pas en mesure de s'adapter et doivent quitter le secteur agricole et parfois même le mode de vie rural.

Bien entendu, les modalités de ces processus d'adaptation reposent sur les alternatives économiques existant au niveau local, régional et national, et parfois à l'étranger, par le biais de migrations internes et internationales. Même si leur connaissance reste imparfaite, de nouveaux systèmes d'activités et de revenus plus complexes et diversifiés remodelent progressivement les économies rurales. La question reste toutefois entière de savoir jusqu'à quel point ces adaptations peuvent se produire et contribuer au processus global de transition économique.

Premières leçons pour l'élaboration des politiques publiques

En raison du rôle central de l'agriculture dans le processus de transition économique de nombreux pays en développement, le contenu des politiques agricoles doit être soigneusement défini, coordonné et articulé avec les autres politiques sectorielles. Une attention toute particulière doit notamment être apportée à leur calage avec les politiques de diversification économique et de création d'emplois, tant en milieu rural qu'urbain (amélioration des conditions d'investissement, dotation en biens publics, renforcement des capacités). Cette approche globale doit s'intégrer dans une vision volontariste et renouvelée des stratégies de développement.

Le manque d'informations adéquates sur les processus de recompositions en cours constitue un réel handicap pour l'élaboration et la définition des politiques. Le réinvestissement dans la conception et la gestion de systèmes d'information capables de saisir les nouvelles réalités devrait être une priorité car ils constituent une pierre angulaire pour la définition de politiques appropriées. Parallèlement, l'appropriation du processus d'élaboration des politiques par les acteurs locaux est essentielle ; elle peut être facilitée par l'engagement direct de l'expertise nationale dans ce défi de l'information et de la connaissance.

Du fait du poids déterminant des questions d'activité et d'emploi, les politiques agricoles doivent cibler au mieux la majorité des producteurs et s'adresser et soutenir en priorité les filières offrant les meilleures opportunités en termes d'activités et de génération de revenus. Dans cette optique, et du fait des exigences et de la concurrence au sein des marchés pilotés par la demande, les marchés alimentaires nationaux et régionaux offrent un fort potentiel de développement avec des contraintes plus limitées. Un tel choix permet la promotion d'un modèle inclusif de développement prenant en compte le défi de l'emploi. De la même manière, il convient d'éviter de recourir à des solutions purement techniques ciblées sur un seul objectif. C'est notamment le cas de l'augmentation de la productivité, qui est évidemment un objectif indiscutable dans une perspective de croissance du secteur, de répartition des revenus et de réduction de la pauvreté, mais qui doit en même temps ne pas ignorer les conséquences sur l'emploi des options techniques retenues.

Enfin, la qualité du débat sur les politiques publiques apparaît déterminante pour prendre en compte la complexité et l'originalité de la situation économique des pays à base agricole. L'adoption d'une approche englobante remettant la question agricole dans la perspective du développement d'ensemble est indispensable pour renouveler les débats au niveau national, régional et continental. Elle est aussi indispensable pour répondre au défi des transitions économique et démographique dans la mondialisation.

Resumen ejecutivo

En contexto de interés creciente por la agricultura, ampliamente estimulado por la reciente subida de precios alimenticios, el programa RuralStruc ofrece una perspectiva renovada al debate internacional mucho tiempo centrado en las cuestiones de liberalización comercial. Adoptando un tema global en términos de transición económica, el programa trata de las dimensiones estructurales de la mundialización y de sus consecuencias para el sector agrícola de los países en desarrollo.

El objetivo de este programa comparativo de un período de tres años, iniciado en el 2006, es fortalecer el debate sobre las políticas públicas gracias a cuestiones temáticas renovadas. Llevado a cabo en siete países correspondiendo a distintas etapas del proceso de transición económica, y donde la agricultura desempeña diferentes papeles (Senegal, Mali, Kenia, Madagascar, Marruecos, Nicaragua y México), el programa hace hincapié en las transformaciones sucesivas de las economías rurales y analiza sus consecuencias en términos de implicaciones políticas.

En cada país, las actividades de investigación son llevadas a cabo por equipos nacionales con el apoyo de instituciones y socios locales. Los trabajos de síntesis realizados durante la primera fase del programa y los talleres de intercambio entre equipos permiten establecer un balance del conocimiento actual sobre estos temas a nivel local, y destacar cuestiones centrales para elaborar políticas públicas.

El rol central de la agricultura en el proceso de desarrollo

En muchos países en desarrollo, especialmente en África subsahariana, la agricultura sigue desempeñando un rol central tanto en la economía nacional (PIB, comercio exterior, empleo) como en el sustento de la mayoría de la población. Este hecho no es intrascendente puesto que significa que el debate sobre la agricultura debe ponerse en perspectiva con una discusión más amplia sobre las alternativas económicas existentes en términos de crecimiento y empleo.

En la etapa actual de la transformación estructural de muchos países en desarrollo – especialmente los países de bajos ingresos y un número significativo de países de ingresos medios – la evolución de la agricultura en las próximas décadas seguirá siendo decisiva para el desarrollo. Esta situación específica se explica por las dificultades de la diversificación económica en un ámbito internacional competitivo que no se puede comparar con otros períodos de la historia mundial. En este contexto único, el proceso de desarrollo económico debe enfrentarse de manera simultánea a los desafíos de la mundialización al igual que a menudo a transiciones demográficas inconclusas.

El desafío de las transiciones demográficas inconclusas

El programa RuralStruc estudia situaciones muy diferentes en cuanto a transiciones demográficas. Mientras que México, Marruecos, y Nicaragua, han avanzado en sus cambios demográficos, con una reducción de las tasas de crecimiento demográfico, los países de África subsahariana se enfrentan a un auge poblacional - el más rápido en el mundo actual (siendo Asia del Sur la otra región de rápido crecimiento): la población subcontinental que podría duplicar entre el 2010 y el 2050 (llegando a 1.7 billones de personas a mediados del siglo veintiuno).

Este crecimiento poblacional debería traducirse en un aumento masivo de la fuerza de trabajo. La cohorte anual de nuevos activos, la cual es alrededor de diez millones de personas hoy en día, debería alcanzar un máximo de cerca veinte millones en los años 2030. Para un país mediano de África subsahariana – sea con una población de 15 millones de personas - la cohorte anual es actualmente de 250 000 personas y debería alcanzar los 400 000 en el 2030.

El "dividendo demográfico" por venir ocurre tras varias décadas con cocientes de actividad extremadamente bajos que han constituido una pesada carga para el crecimiento (con sólo un activo por inactivo) cuando las economías africanas manejaban al mismo tiempo la liberalización y los procesos de ajuste estructural. Este dividendo demográfico puede ser una gran oportunidad, siempre que los motores de crecimiento sean suficientemente fuertes para absorber la expansión de la oferta en trabajo. Este refuerza los retos de la diversificación cuando la estructura económica del subcontinente ha evolucionado poco durante los últimos cuarenta años. El auge de la urbanización en África subsahariana se ha caracterizado por una muy baja industrialización, desempleo y subempleo recurrentes. La creación de empleos sigue concentrándose principalmente en el sector informal, tanto en zonas rurales como urbanas, el cual se caracteriza por bajos salarios y productividad que no hacen fácil acumulación de activos y aumento del consumo.

Al contrario, en los casos de México, Marruecos y Nicaragua, la migración internacional parece haber sido la principal respuesta a la lentitud del ritmo de creación de empleos. No obstante el rol de la industrialización importante en un país como México, las migraciones desempeñaron y siguen desempeñando un papel importante en el proceso de transición: con alrededor del diez por ciento de su población que vive en países de mejores ingresos (lo que no es el caso en las migraciones intra-africanas), estos países han accedido a una poderosa alternativa adicional que ha facilitado su transición económica, así como las migraciones europeas hacia los “nuevos mundos” lo hicieron de cierta manera para las transiciones europeas. En el contexto actual, esta tendencia parece difícil de reproducir a un mismo nivel en los países de África subsahariana.

El desafío de la agricultura frente a la mundialización

La creciente fuerza de trabajo pone una presión adicional sobre la agricultura en los países donde el sector ocupa la mayor parte de la estructura del empleo. Asimismo, la evolución de la agricultura y su capacidad de absorción serán determinantes en la gestión

de la transición económica, a sabiendas de que el trabajo familiar y el trabajo por cuenta propia siempre han sido una de las principales características de la agricultura. Se trata evidentemente de un tema central para África subsahariana, pero también en países como Nicaragua o Marruecos, donde una parte significativa de la población se sustenta gracias a este sector.

En los países en desarrollo, la agricultura se enfrenta hoy a dos cambios mayores relacionados con la mundialización. El primero es una consecuencia directa de una economía global más abierta, impulsada por el aumento de los intercambios de larga distancia, donde sistemas agrícolas con distintos niveles de productividad y de apoyo público compiten por los mismos mercados internacionales. Los agricultores tienen que manejar diferencias de productividad que van de 1 a 1000, lo que corresponde en el caso de los cereales, a diferencias entre sistemas manuales sin "paquete técnico" de la Revolución Verde y sistemas intensificados, motorizados y, a veces, subvencionados. Estas diferencias constituyen un problema crucial, porque la competitividad no sólo se refiere a ventajas en términos de costos y calidad de los productos, sino también en términos de capacidades de oferta que determinan las cuotas de mercado y también la facultad de abastecer tanto los mercados locales como internacionales. En paralelo, los apoyos públicos directos (al ingreso o bajo forma de crédito) e indirectos (gestión de los riesgos) ayudan a los productores de la OCDE a sobrellevar diferentemente las limitaciones económicas o naturales.

El segundo proceso se refiere a la reestructuración global de los sistemas agroalimentarios. Esta se caracteriza a la vez por la integración vertical de las cadenas de valor y por el desarrollo de nuevas redes de distribución impulsadas por la demanda ("revolución de los supermercados"). Estas reconfiguraciones ofrecen nuevas oportunidades a los productores, pero también modifican las reglas del mercado. El fortalecimiento de las normas sanitarias y de los estándares de calidad de los productos con alto valor agregado o de los sistemas de abastecimiento de los supermercados, exigen una capacidad de adaptación elevada por parte de los productores. Esta tendencia refuerza la diferenciación entre los agricultores en función de sus propios activos (capital y conocimientos) y del acceso al mercado (para los cuales el desarrollo de bienes públicos - típicamente infraestructuras e informaciones - es decisivo).

El desarrollo de estos procesos es obviamente muy variado entre países, regiones y cadenas. La expansión de la contratación relacionada con el nuevo funcionamiento y con los requisitos más importantes de los mercados sigue siendo limitado y contrastado en África subsahariana donde se refiere principalmente al sector hortícola en su definición más amplia. En México y Nicaragua, los sistemas de adquisición están más desarrollados e incluyen igualmente productos lácteos y otros productos de origen animal. En África subsahariana, solo un máximo de decenas de miles de agricultores están involucrados en estos procesos en cada país, mientras que cientos de miles y hasta millones de personas producen alimentos básicos y productos tradicionales para la exportación.

Las alternativas a la agricultura y la reconfiguración de las economías rurales

En este contexto que ofrece oportunidades desiguales, una cuestión central para los productores es su capacidad de adaptación a un entorno económico competitivo, así como a crecientes limitaciones: el aumento de los precios de los insumos, las dificultades de acceso a los factores de producción o las consecuencias de la degradación de los recursos naturales (estos dos últimos agravados a veces por la presión demográfica).

Aunque el actual incremento de los precios alimenticios pueda mejorar fuertemente la situación de los productores excedentarios, la cuestión central sigue siendo la capacidad de los diferentes grupos de agricultores de enfrentarse a un contexto en el cual la evolución de la gestión de los riesgos depende principalmente de sus propios recursos: algunos productores son capaces de manejar las nuevas oportunidades y limitaciones; otros tienen que diversificar sus actividades y fuentes de ingresos para sostenerse; otros más no son capaces de adaptarse, y son expulsados del sector agrícola, y a veces de las zonas rurales.

Por supuesto, la pauta de estos procesos de adaptación se basa principalmente en las alternativas económicas existentes, a nivel local, regional y nacional, y a veces en el extranjero, mediante migraciones internas e internacionales. Aunque su conocimiento sea incompleto, nuevos sistemas de actividades e ingresos más complejos y diversificados remodelan progresivamente las economías rurales. Sin embargo, la cuestión fundamental sigue siendo hasta qué punto las adaptaciones puedan ocurrir y contribuir al proceso mundial de transición económica.

Primera lección para la formulación de políticas públicas

Debido al papel central de la agricultura en el proceso de transición económica de muchos países en desarrollo, el contenido de las políticas agrícolas debe ser cuidadosamente diseñado, coordinado y articulado con las demás políticas sectoriales. Se debe prestar especial atención a adecuarlas con políticas de diversificación económica y de creación de empleos tanto en las economías urbanas como rurales (mejoramiento del clima de inversión, dotación en bienes públicos, capacitación). Este enfoque global debe integrarse en una visión voluntarista y renovada de las estrategias de desarrollo.

La falta de información adecuada sobre estos procesos de recomposición inconclusa constituye una gran desventaja para la definición de políticas. El reforzamiento de las inversiones en los diseños y la gestión de los sistemas de información capaces de captar las nuevas realidades debe ser una prioridad, porque son una piedra angular para la definición de políticas públicas adecuadas. En paralelo, la apropiación de los procesos de elaboración de las políticas por actores locales es esencial; puede ser facilitada por el involucramiento directo de expertos nacionales en este desafío de la información y del conocimiento.

Debido al peso determinante de los temas de las actividades y del empleo, las políticas agrícolas deben centrarse en la mayoría, dirigirse y apoyar en prioridad las cadenas de valor que ofrecen las mejores oportunidades en términos de actividades y de generación

de ingresos. Desde esta perspectiva, y debido al aumento de los requisitos de la demanda impulsada por los mercados, los mercados de alimentos nacionales y regionales ofrecen un alto potencial de desarrollo con menores limitaciones. Tal elección favorece la promoción de un modelo inclusivo de desarrollo que toma en cuenta el desafío del empleo. De la misma forma, conviene evitar escoger soluciones únicamente técnicas dirigidas hacia un solo objetivo. Esto es típicamente el caso del aumento de la productividad - que es obviamente un objetivo indiscutible en la perspectiva de crecimiento del sector, de la distribución del ingreso, y del alivio de la pobreza – pero que debe al mismo tiempo considerar las dimensiones del empleo de las elecciones técnicas.

Por último, aparece que la calidad del debate político será determinante para abordar la complejidad y la singularidad de la situación económica de los países con base agrícola. La adopción de una perspectiva amplia, que posiciona el futuro de la agricultura en el panorama mundial, es indispensable para renovar los debates a nivel nacional, regional y continental. Es además esencial para responder al desafío de las transiciones económicas y demográficas con la mundialización.

1 General introduction

The RuralStruc (RS) Program on the “*Structural Dimensions of Liberalization on Agriculture and Rural Development*” is a three-year (2006-2008) cross-regional Economic and Sector Work (ESW) placed under the Sustainable Development Department of the World Bank and managed by the Agriculture and Rural Development Unit of the Africa Vice-Presidency (AFTAR). The program officially started in October 2005 and was launched formally in April 2006 with a workshop in M’Bour, Senegal, after a preparation phase dedicated to the identification and selection of the contributing partners in the selected countries.

This document’s objective is to provide the background and rationale of the program and the main results of its first phase (2006-07). These results aim to elaborate upon an overview of structural change processes in the agricultural and rural economy of every participating country. It is based on national reports prepared by the contributing partners through desktop studies relying on what is known about these issues.¹ Updated information and analyses, based on fieldwork and data collection, will be provided by the on-going second phase (2007-08). As a consequence, this document does not pretend to present a state of the art on program’s core issues.

1.1 Overview of the RuralStruc Program

The RuralStruc Program is supported by a free-standing multi-donor trust fund sponsored by the World Bank and the French Cooperation (Ministry of Foreign and European Affairs, Ministry of Agriculture and Fisheries, *Agence Française de Développement* (AFD) and *Centre de Coopération Internationale en Recherche Agronomique pour le Développement* (CIRAD)). The International Fund for Agricultural Development (IFAD) joined the program for its second phase, which is locally supported by additional donors in three countries of the program (the Swiss Development Agency (DDC) and the Finnish Ministry of Foreign Affairs).

There are three purposes of the RuralStruc Program: (i) contribute to the analytical knowledge base about the structural implications of liberalization and economic integration for agriculture and rural development in developing countries, (ii) feed and improve the international and national debates by promoting these issues, and (iii)

¹ The national reports are referenced in the document using the following: (RS Country, p.x). Their executive summaries are provided in annex 2.

provide guidelines for policy making. Consequently, one of its original characteristics is the core methodological choice of developing activities through local partnerships – using local teams – whose purpose is to foster both local ownership and the public policy debate.

The program adopts a broad approach, which is not limited to trade liberalization, and also includes domestic reform, state withdrawal, privatization, and decentralization in historical perspective in order to explore the trajectories of structural change and to identify factors of convergence and divergence between countries through comparative analyses.

Box 1: “RuralStruc” – what’s in a name?

The selection of the acronym used to name this program on the structural dimensions of liberalization on agriculture and rural development clearly relates to the choice of bringing structural issues into a debate mainly focused on trade issues. Using the iceberg image, structural transformation refers to what is under the waterline, while trade liberalization is only the tip. The program’s logo draws on this image.

RuralStruc refers both to rural structures and to the implications of global structural change on agriculture and rural economies. The main objective of the program is to reconnect the on-going processes within agriculture to more global restructuring processes related to globalization, and to address some recurring blind spots of the international debate like the growing productivity asymmetries between countries, the demographic challenges of several developing regions, and their consequences on each country’s unique process of structural transformation.

Seven countries are involved in the program, each of which corresponds with a different stage in the process of liberalization and economic integration:

- Mexico, on one side, serves as an example of a deep integration and liberalization process and provides a background picture with the experience of the North American Free Trade Agreement (NAFTA).
- Sub-Saharan Africa (SSA), on the other side, with Senegal, Mali, Kenya and Madagascar, provides an illustration of partial integration and liberalization processes, initiated through state reform, privatizations and lowering of tariffs, that are all still in progress (e.g. negotiations with the European Union of the Economic Partnership Programs - EPAs).
- Morocco and Nicaragua represent two additional case studies of rapid integration processes through the implementation of free trade agreements (with the European Union and the United States in the case of Morocco, and with the USA in the case of Nicaragua and the implementation of the Central America Free Trade Agreement - CAFTA).

RuralStruc’s main themes are (i) vertical and horizontal integration and their impacts on differentiation in production and marketing structures; (ii) the demographic and economic transitions (particularly the shift of the economically active population (EAP) between economic sectors) and the risks of transition impasses (leading to international migration); and (iii) the reshaping of rural economies as a response to these global processes of change, related to the development of non-farm activities and the

development of private and public transfers (remittances and social safety nets when they exist). This reshaping of rural economies concurs with the diagnosis formed in the World Bank's last World Development Report (WDR08), which identifies diversification of activities and income as main pathways out of rural poverty (World Bank 2007).

1.2 Background: agriculture is back on the agenda

Forgotten over the last two decades by donors and many governments, agricultural development-related issues are back on the international agenda. Indeed, since the RuralStruc Program initiated, several events and new related debates have highlighted the recurring importance of agriculture for development. This comeback is critical and decisive for the orientation of public policies.

At the time of RuralStruc's preparation in 2005, two main frameworks structured the international debate about development: the United Nations' Millennium Development Goals (MDGs), and the World Trade Organization's (WTO) "Development cycle" or Doha Development Agenda (DDA), set at the Doha ministerial conference (2001). Agriculture was clearly part of these two main agendas, sometimes occupying a key position (case of the DDA), but was never the core issue.

The MDGs provided a global framework based on poverty alleviation. The first goal – "*to halve poverty and hunger before 2015*" – is clearly agriculture-related: 70% of the world's poor (45% of the world's population) live in rural areas and rural people rely mainly on agriculture as a livelihood; and improved food supply and availability is central for hunger alleviation. The decisive role of agriculture in "pro-poor growth" was also reaffirmed by broad cross-country analyses performed by the World Bank (2005a). However, poverty remained the central issue and agricultural development was only one of the means cited to fight poverty among many other thematic and non-sectoral issues.

The WTO negotiations logically focused on trade liberalization, where agriculture is one sector, among others, to be liberalized. However, agriculture has progressively become the main stumbling block in the negotiation process, used by developing countries (DCs) as a core argument to engage with developed countries on the broader issue of the liberalization of industrial products and services. It led to the failure of the Cancún ministerial (2003), initiating a large debate on the costs and benefits of trade liberalization of agriculture. This overwhelming focus on agriculture and trade and its domination over the international debate was one of the main justifications of the RuralStruc initiative.

Since 2005, the debate has been renewed and the global picture has been marked by several events and evolutions. On the trade side, the WTO debate has faded due to continuous impasses, particularly regarding agriculture, as seen at the Hong-Kong ministerial (2005) and the following Geneva meetings. Increasing attention was dedicated to bilateral or regional Free Trade Agreements (FTA) and major stakeholders decided to carry on bilaterally what was impossible to achieve at the global level.

Among other reasons explaining the declining interest in trade liberalization in international debates are additional estimations which downgraded its expected gains and pointed out the specific situation of many developing countries, particularly in Africa, which could probably incur net losses rather than gains (Box 2). In this context, negotiations have become more acute on OECD countries' subsidies and market access.

Box 2: Estimated gains of the further agricultural trade liberalization

Additional work on trade liberalization and its impacts has provided a more detailed picture, thus downgrading the projected gains of liberalization.

Initial gains were expected to be substantial. For instance, Anderson and Martin (2005) estimated that the elimination of agricultural subsidies and the liberalization of merchandise trade would lead to an increase in global income by \$300 billion per year by 2015. But various authors such as Polaski (2006) or Bureau et al. (2006) have found that the actual gains from trade liberalization are less impressive. Polaski projects gains at the aggregate global level on the order of only \$40 to \$60 billion (an increase of less than 0.2% of current global gross domestic product (GDP)).

Moreover, these modest overall gains would have varied economic effects on different countries and regions: there are both net winners and net losers and the poorest countries are among the net losers under all likely Doha scenarios. China is the country that stands to gain the most from global trade liberalization with overall projected gains ranging from 0.8 to 1.2% of GDP, whilst some Sub-Saharan African countries are expected to be the biggest losers with an overall reduction in income of just less than 1%.

However, particular assessments of agricultural trade liberalization itself show a global picture where the benefits are expected for the developed countries, while developing countries – on the whole – will experience slight losses. But, again, aggregated figures are the enemy in the debate and differences in impact among countries and regions are meaningful: while a few countries such as Brazil, Argentina and Thailand gain, more countries suffer small losses such as the Sub-Saharan Africa countries, Bangladesh, Middle Eastern and North African countries, as well as Vietnam, Mexico, and China (which should lose in agriculture when winning globally).

As part of the recent analysis, authors pointed out that the initially large gains for developing countries predicted by some models were largely driven by particular assumptions about market equilibrium (notably labor) and inaccurate tariff data (Polaski 2006), underestimation of the impacts of price instability (Boussard et al. 2005), and excessive country aggregation (explained by the limitations of the existing databases) that hide the varied outcomes experienced by different developing country groups (Bouët et al. 2005). This is particularly the case of the Sub-Saharan Africa countries, which are all aggregated in the Global Trade Analysis Project (GTAP) database – the data reference of most of the projections.

The current trend in this debate is that trade liberalization can help foster growth but needs careful design in the strategizing process of its implementation with specific accompanying domestic policies.

Trade issues are also relativized by the renewed and growing concern over global climate change, which was stressed by the *Stern Review on the economics of climate change* (HM Treasury 2006) and later by the Intergovernmental Panel on Climate Change (IPCC) report (Bates et al. 2008), because this phenomenon poses a threat to agricultural development and, hence, development as a whole. These broad analyses emphasize the impact of climate change on natural resources and agriculture by showing that climate change is expected to have various adverse effects such as increased rainfall variability, long-term drying trends, a reduction in cultivable land and a reduction in the length of the growing season. Out of all the regions, Sub-Saharan Africa is expected to suffer the most: the IPCC projects annual agricultural losses of between 2 and 7% of GDP in the region by 2100, Cline (2007) projects a reduction of 28% in agricultural output by 2080, and the World Bank (2006) predicts an average decline of 30% of net revenues/ha across all

African countries. These reports stress the need for special mitigating measures to prevent 120 million additional people from suffering from hunger. They also stress the role of agriculture in resource management and resource degradation.

In this context, the choice made by the World Bank to select agriculture for its flagship report on development (WDR08) provided the necessary momentum for a new focus and a new perspective on agriculture. Its broad dissemination process has facilitated the comeback of agriculture in the international debate on development. Named “*Agriculture for Development*”, the WDR08 strongly reinforces the roles of agriculture as a main sector of economic activity in most developing countries (as a source of labor, growth and of comparative advantage), an important social sector due to the large share of the population involved, and an important user of natural resources.

Box 3: The WDR08 and its “three worlds”

The WDR08 proposes a regionalized approach of agriculture for development and identifies three distinct worlds of agriculture depending on its contribution to growth and on the rural share of global poverty: an *agriculture-based*, a *transforming*, and an *urbanized* world. In each world, the agriculture-for-development agenda differs in pursuit of sustainable growth and poverty reduction.

In the agriculture-based countries, which include most of Sub-Saharan Africa, agriculture and its associated industries are essential to growth and to reducing mass poverty and food insecurity. They provide jobs, activities, incomes, and food self-sufficiency. In transforming countries, which include most of South and East Asia and the Middle East and North Africa, rapidly rising rural-urban income disparities and persistent extreme rural poverty are major sources of social and political tensions; rural diversification and agricultural income growth are answers to these challenges. In urbanized countries, including most of Latin America, much of Europe and Central Asia, agriculture can help reduce the remaining rural poverty if smallholders become direct suppliers in modern food markets, good jobs are created in agriculture and agro-industry, and if markets for environmental services are introduced.

	Agriculture-based countries	Transforming countries	Urbanized countries
Rural population (millions), 2005	417	2,220	255
Share of population rural (%), 2005	68	63	26
GDP per capita (2000 US\$), 2005	379	1,068	3,489
Share of agriculture in GDP (%), 2005	29	13	6
Annual agricultural GDP growth, 1993-2005, (%)	4.0	2.9	2.2
Annual nonagricultural GDP growth, 1993-2005 (%)	3.5	7.0	2.7
Rural poverty rate, 2002 (%)	51	28	13

Sources: World Bank 2007, p. 31-32

Note: The poverty line is \$1.08 a day in 1993 purchasing power parity dollars.

The WDR08 suggests three pathways out of rural poverty in order to explain how agricultural growth can reduce rural poverty: (i) agricultural entrepreneurship, (ii) the rural labor market, and (iii) the rural non-farm economy and migration to towns, cities or other countries. Several pathways often operate simultaneously and the complementary effects of farm and non-farm activities can be strong. Although rural households engage in farming, labor and migration, one of these activities usually dominates as a source of income.

The WDR08 also provides an insightful review of what is known about the mechanisms of agricultural development and how agriculture can leverage the development process. The latter is based on a regionalized vision of the world's agriculture, which depicts the specific roles and challenges of agriculture in the development process depending on its weight in the regional economy (Box 3). This targeted approach has strongly contributed to the success of the report and fostered its discussion at regional level.

New events characterizing the international food markets over the last two years have modified the global picture – particularly since the beginning of 2008 with a substantial and rapid increase of food prices (Box 4). These events, predictably, contribute to renewed interest in food and agriculture issues; however, they also tend to focus attention on short-term issues and mitigation.

Box 4: Food price increase: the facts

While the FAO food price index rose on average 8% in 2006 compared with the previous year, in 2007 it increased by 24% from 2006. For the first three months of 2008 when compared to the same three months in 2007 the increase reaches 53%. The sharp rise in prices has been led by vegetable oils with nearly a 97% increase, followed by grains (87%), dairy products (58%) and rice (46%) (FAO 2008).

The current trend in food prices is expected to persist in the medium-term: food crop prices are projected to stay high in 2008 and 2009 and then follow a downward trend but to remain above 2004 levels through 2015 for most food crops. The OECD-FAO "*Agricultural outlook for 2008-2017*" anticipates the same kind of evolution: prices are expected to decrease but to stay quite high in the medium-term. In the nominal-term, projections for 2008-2017 express that prices of meat, sugar, wheat and maize, and vegetable oil will increase by respectively 20, 30, 40 to 60 and 80% when compared to the 1998-2007 period (OECD-FAO 2008).

Different demand-side and supply-side factors led to these high food prices and there is a fervent debate on the role played by each of them (Box 5). Nevertheless, and whatever the contribution of each factor, one main conclusion is that there is no global food shortage in the medium-term: the core issue is the *cost* of food and not the *lack* of food, and the main concern is the access to food for low-income consumers. The challenge today is to simultaneously help farmers to reap the benefits of the current price increase, mitigate its impact on the poorest consumers, increase food production to counter-act increasing prices, and also improve producers' income through higher yields.

Box 5: Food price increase: the main reasons

On the supply-side, weather-related production shortfalls, stock levels and increasing fuel costs have all contributed to booming prices. With regard to production shortfalls, the most important occurrence is a drop in output – by 4-7% in 2005 and 2006 respectively – in eight major exporting countries, which constitute nearly half of global production. High food prices are also influenced by a gradual reduction in the level of stocks, mainly of cereals, since the mid-1990s; since the previous high-price event in 1995, global stock levels have, on average, declined by 3.4% per year. The boost in fuel prices increases the costs of producing agricultural commodities as well as the costs of transportation. Energy prices have augmented sharply, as seen with more than a doubling of the Reuters-CRB energy price index over a period of three years, since the middle of 2004.

On the demand-side, the changing structure of demand, the emergence of bio-fuels, and operations on financial markets are cited as contributory factors towards raising food prices. With regard to the changing structure of demand, it is widely accepted that economic development and income growth in important emerging countries are gradually changing the structure of demand for food commodities (especially in

China and India). Diets are moving towards more meat and dairy products, away from starchy foods. For instance, in China, per capita meat consumption increased from 20 kg/year in 1980 to 50 kg at present; at the same time, the Chinese population rose from less than 1 billion to more than 1.3 billion people. Although cited as a factor, it must be noted that these changes are progressive. The emerging bio-fuels market is a new and significant source of demand for some agricultural commodities such as sugar, maize, cassava, oilseeds and palm oil, because crude oil price increase allow them to become viable substitutes in countries that have the capacity to produce (not to mention subsidize) them. The development of maize-based ethanol production in particular impacts by contagion effect the other cereal markets. On the subject of financial markets, derivatives markets offer an expanding range of financial instruments to increase portfolio diversification and reduce risk exposures. These derivatives markets can attract speculators and the resultant influx of liquidity is likely to influence the underlying spot markets. More likely, however, speculators contribute to raising spot price volatility rather than to long-term price trends.

Agriculture is now back on the agenda of development and its contribution to growth, trade, and poverty alleviation is no longer in question: donors and governments are reengaging. This context provides an opportunity to broaden the debate and to propose a global perspective where agriculture is not only a supplier of food products but also a core activity of rural livelihoods. Agriculture is part of the process of structural transformation and is also deeply reshaped by the new trends in the agrifood markets and the general consequences of globalization. Understanding these processes is critical for the identification of the adequate development policies.

2 Rationale, hypotheses and design of the program

The main objective of the RuralStruc Program when it was initially discussed in 2005 (World Bank 2005b) was to provide an additional perspective to an international debate on agriculture that was clearly focused on trade liberalization and its price effects (both at the macro level and the micro level, notably its distributional impacts). In particular, its purpose was to feed this debate with other effects, facts and analyses related to more structural dimensions of liberalization and to discuss their consequences regarding the broad processes of structural transformation. This perspective has strongly founded the rationale of the program and shaped its main hypotheses, while the objective of contribution to the national and international debates determined its design.

2.1 Agriculture in the process of structural transformation and the challenges of globalization

The structural transformation of economies and societies is a core issue in development studies. Historical records and statistical evidence (Timmer & Akkus 2008) show a progressive switch from agriculture (the original “primary” activity of every sedentary population), to industry (the “secondary” activities) and then to services (the “tertiary” activities). The well-known underlying dynamics of this structural change – or “economic transition” from one configuration to the next – is productivity gains in agriculture, based on innovation that fosters technical change and allows labor and capital transfers towards other economic activities. This process is accompanied by progressive spatial restructuring from scattered activities (typically agriculture) to more concentrated ones (typically industry), with migration of labor and people from country to cities. Rural depopulation fosters cities’ growth, which initially developed for defense and trade purposes.

Alongside the process of growing urbanization, this global economic transformation has induced increasing incomes and wealth, which translates into improved living conditions. This, in turn, initiated the process of demographic transition (progressive reduction of mortality and birth rates, the differences of which explain different population growth dynamics – see *infra*).

Evidence of this global structural process of change can be found in various regions across the world, albeit with different paths and paces, starting with the closely related agricultural and industrial revolutions of Western Europe at the end of the 18th century, followed by the USA, other regions of Europe, the main part of Latin America and various regions of Asia.

One of the main challenges of the present period is the simultaneous acceleration of change and the growing asymmetries between regions of the world characterized by different stages in this process of economic transition. This situation is unique in world history. The current globalization process is too often trivialized as a “second

globalization” with reference to a first period between the 1860s and the First World War, when increasing flows of goods, labor and capital connected Europe with its immediate periphery (Russia, Ottoman Empire) and most of all with the “New Worlds” – mainly the USA (Berger 2002). However, this globalization of the early 20th century was, first of all, a process of convergence in the North Atlantic economy, driven by migration flows (O’Rourke & Williamson 1999), with a significantly different geopolitical order (mainly European colonial empires and the American influence zone in Latin America).

In comparison, the globalization of today involves an increasing “global world” integration – facilitated by continuous technical progresses in transportation of goods, capital and, particularly, information – with new financial instruments, a greater concentration of assets among global firms and institutional investors, and the development of intra-industry trade. The emerging result of this integration is a deeper interconnection of both markets and human societies, which impacts their structure. The consequence is a global confrontation between different stages of social and economic development resulting from specific development trajectories and from different modalities and sequences of integration in the world economy.

Box 6: Liberalization or globalization?

In the early definition of the RuralStruc Program, liberalization was understood in a broad sense as the global process of change engaged in the early 1980s, that included trade and domestic reform, state withdrawal from economic activities, privatization, and, in many developing countries, the reform of the state through decentralization and the development of democracy.

The aim of the RS program was to focus on all of the structural implications of this new context, which explains the choice for the denomination of the program. However, although we adopted a broad definition of liberalization, this “official positioning” of the program’s name quickly appeared inadequate:

- Firstly, because the understanding of the objectives was often restricted to the policy package dimension of the reform process associated with liberalization and, consequently, was perceived as a critical approach of the reforms – which was obviously not the purpose; and
- Secondly, this misinterpretation implicitly limited the scope of the processes at stake.

After engaging in debates with both the donor community and the national partners, it appears that “globalization” would have been more relevant than “liberalization” in the denomination of the program.

Such a positioning could appear to be an excessive scope. Nevertheless, what the program clearly addresses is the new international regime engaged in the early 1980s and its consequence for agriculture and rural economies. This new regime is characterized by new roles for the state and private actors, as well as by a broad and deep movement towards integration of the world economy.

Among the main structural dimensions of this new international regime, two key themes are targeted by the RuralStruc Program: (i) the consequences of the “confrontation” effect between different levels of productivity and competitiveness in an increasingly open economy, and (ii) the global agrifood system restructuring and its impacts at national levels. Simultaneously, a demographic perspective is adopted to confront these processes of economic structural change with the trends of evolution of the economically active population (EAP) to subsequently discuss the challenges of present structural transformation.

2.1.1 The “confrontation effect”

Presently, a large portion of the world’s labor force (45% or approximately 1.3 billion people) is still engaged in agriculture.² Out of this agricultural EAP (AgEAP), 97% are in developing countries (14% in SSA, 78% in Asia, less than 4% in Latin America). Consequently, the agricultural population, i.e. all the persons depending on agriculture for their living, totals 2.6 billion people (41% of the world population). Differences among regions are remarkable, particularly if we refer to the “three worlds” of agriculture presented by the WRD08. Whereas agriculture still plays a major role in SSA, which is the core of the “agriculture-based countries” (where on average 64% of the EAP is engaged in agriculture), AgEAP counts for less than 20% in the “urbanized countries” of Latin America. The “transforming world” of Asia presents more contrasts with significant differences between China and India (with respective AgEAP of 64% and 57%) and other countries in the region (Indonesia 45%, and Malaysia with a mere 15%).

Behind these aggregates, critical differences in productivity exist. For instance, if we confront the cereal production of developing countries – characterized by manual labor, a lack of Green Revolution packages (industrial inputs) and a single agricultural cycle per year – with the most heavily mechanized, high input level (not to mention subsidized) farms of developed countries (and some specific regions of DCs), the commonly accepted world productivity gap is a minimum of 1 to 1000. This gap (Table 1) is a durable obstacle to competitiveness in the context of increasing competition in a globalized open economy. This is a major issue because one must bear in mind that the three pillars of competitiveness are, of course, production costs, but also the response to the quality requirements, and the volume of supply. In the current context of increasing food demand and high prices, the most productive farming systems are the ones able to take advantage of the new market opportunities, as they will be able to provide additional supply quickly. For less productive and competitive agriculture the risk of progressive marginalization due to decreasing market shares seems a possible trend.

This progressive marginalization is a legitimate concern because it refers to the existing employment alternatives for the AgEAP, which continues to increase in relation to the demographic growth (see below).

Despite the issues raised by the different agricultural productivity and competitiveness levels between developed and developing countries, the confrontation effects remain a blind spot in the international debate that must be taken into account when analyzing the past and future role of agriculture in DCs.

² Figures on agriculture EAP come from FAOSTAT. See the discussion in 3.1.2.

Table 1: Existing world's gross productivity gaps in cereal production

Number of workers		Green Revolution	Mechanization	Area per worker (ha)	Land productivity (tons/ha)	Labor productivity (tons/worker)
Millions	%					
30	2	Yes	Tractors	100	10	1000
410	32	Yes	Animal traction	5 or 2.5 (x 2 harvests)	10	50
410	32	Yes	Manual tools	1 or 0.5 (x 2 harvests)	10	10
450	35	No	Manual tools	1 or 0.5	1 (rainfed) 2 (irrigated)	1
1300	100					

Source: adapted from Mazoyer (2001)

2.1.2 Restructuring the global agrifood system

The other driver of change (since the early 1980s) is the progressive restructuring of the global agrifood system, which has overtaken the slow and difficult progress made towards the liberalization of agricultural trade. The “agricultural exception”, allowed since 1947 under the *General Agreement on Tariffs and Trade* (GATT) regime, only began to be addressed in the launch of the Uruguay Round in 1986. This exception formally ended with the Marrakech Agreement of 1994, but since then negotiations for further trade liberalization have stalled within the WTO framework.

At the same time, but at a different pace, the global characteristics and functioning of the agrifood markets have been deeply affected by the emergence of globalization. The concurrence of market deregulation and privatization, on one side, and the emergence of demand-driven markets boosted by global income increase, on the other, has radically reconfigured the global pattern with new structural trends.

Firstly, foreign direct investment (FDI) flows have increased rapidly in reaction to new capital mobility fostered by deregulation, new financial instruments, firms’ needs to find external sources of growth – through new markets and more efficient production costs – and by taking advantage of the opportunities created by privatization. This situation leads to market globalization and to concentration processes related to competition for market shares.

Secondly, an increasing demand for high-value food products, a consequence of new diets resulting from growing incomes (with a bigger share of fresh products – fruits and vegetables, meat and dairy), has introduced new quality requirements particularly those linked to sanitary issues and the specific needs of fresh product marketing (appearance, packaging, speed of distribution, etc.). Simultaneously, new high-value market segments have emerged related to the development of organic food, fair trade and other ethical concerns. These demand-driven trends, significantly different from the historical basic

food supply, have translated into new norms and standards for dealing with these more complex quality issues; the consequence of these new norms and standards is increasing transaction costs linked to the compliance with these new requirements.

Thirdly, improvements in communication and transportation facilitate long-distance transactions and the globalization of the food supply chains, for both the food industry and food distribution.³ On both sides, the trend toward concentration – related to global competition fostered by increasing FDI – translates into vertical integration of the value chains and the development of new distribution systems with the rise of the supermarket model, which is a way to guarantee the supply in due time of the requested quality products.

This deep restructuring has radically changed the landscape of the agrifood system (Reardon & Timmer 2007). On the one hand, this evolution comes with a growing disconnect of local farmers from their national markets, which can now be supplied from abroad. On the other hand, it allows for the integration of some local producers into global chains and provides new opportunities for growth. However, the new rules resulting from this new context require adaptation by producers who must now observe the new quality requirements, which often imply capital and technical skills. Therefore, understanding the consequences of this new trend in terms of inclusion and/or exclusion of producers in these global value chains is a critical issue. Again, similar to the consequences of the confrontation effect, the risks of marginalization must be evaluated in the light of alternative activities for the people working in agriculture.

2.1.3 The new demographic pattern and its challenges

The progressive restructuring of the global agrifood markets and the consequences of the confrontation between different types of farming systems and productivity levels have to be put into perspective with a rapidly evolving demographic context. Over the past few decades, the challenge of “nourishing the planet” has been of critical international concern, and is often exacerbated by circumstances such as natural disasters. This challenge has been reactivated by the interaction of the potential impacts of climate change on production and the rising new demands linked to evolving diets and bio-fuels; all these factors translate into the current price increase and greater volatility (see introduction). However, at the same time, one must consider that the global population continues to grow.

According to the last United Nations projections, the world population will reach 9.1 billion people in 2050 – nearly 2.5 billion more people than today (see Table 2).

³ The sustainability of this trend will of course depend on the evolution of transport costs (see the recent oil price increase).

Although these statistics are widely acknowledged, a matter that receives less attention is the distribution of this population increase across regions and the consequences of this distribution on the respective regional economic structures. This unequal distribution is a direct consequence of different stages in the process of demographic transition experienced regionally. Whilst Europe shows characteristics of the final stage of transition, with an ageing and declining population, Sub-Saharan Africa or South-Central Asia are still booming, demonstrating different phases within the transition. However, SSA and South-Central Asia are booming at different rates: SSA's population should duplicate by 2050, reaching 1.7 billion people, while South-Central Asia should "only" grow by 40%. Thus, Sub-Saharan Africa should become the second most populated region of the world (after South Asia). Simultaneously, East Asia's population growth (mainly China) should come to a halt as a consequence of the radical birth policies in place since the 1970s, and East Asia should progressively face the same problems presently seen in Europe (i.e. the burden of an ageing population).

The main result of this differentiated evolution will be a new mapping of the world, which will inevitably influence the current balance of power. As Guengant (2007) reminds us, SSA should regain its former share of the world population – around 20% – and should overtake China in 2050 (interestingly, the two had a very close population around the 16th century). Europe and North America combined should represent fewer than 15% of the world's total population (Table 2).

The main economic concern with the demographic transition relates to the evolution of the activity structure of the population, which reflects its age structure (Bloom et al. 2001). It translates into different dependency or activity ratios⁴ summarizing the respective portions of active and inactive people in the economy. In the first phase of demographic transition, the population is young with a high share of young, inactive people; during the second stage, these cohorts become active and could offer a bonus to the economy named the "demographic dividend". Finally, the third stage corresponds to the ageing of these cohorts, thus increasing the dependency ratio (or decreasing the activity ratio).

⁴ The ratio commonly used is the dependency ratio, i.e. the inactive population : the active population.; however, because we examine activity and employment, we use the activity ratio (active : inactive) which is more illustrative for our purposes.

Table 2: World population increase in selected regions: 1960-2050 (millions)

Region	1960		1990		2010		2050		2010-2050	
	MM	%	MM	%	MM	%	MM	%	Increase	%
Eastern Asia	792	26.1	1,344	25.4	1,563	22.6	1,591	17.3	29	2
South-Central Asia	622	20.5	1,243	23.5	1,777	25.7	2,536	27.6	759	43
Sub-Saharan Africa	226	7.5	519	9.8	867	12.6	1,761	19.2	894	103
North America	204	6.7	284	5.4	349	5.0	445	4.8	97	28
Latin America and Caribbean	220	7.3	444	8.4	594	8.6	769	8.4	176	30
Europe	605	20.0	721	13.6	730	10.6	664	7.2	-66	-9
WORLD	3,032	100	5,295	100	6,907	100	9,191	100	2, 285	33

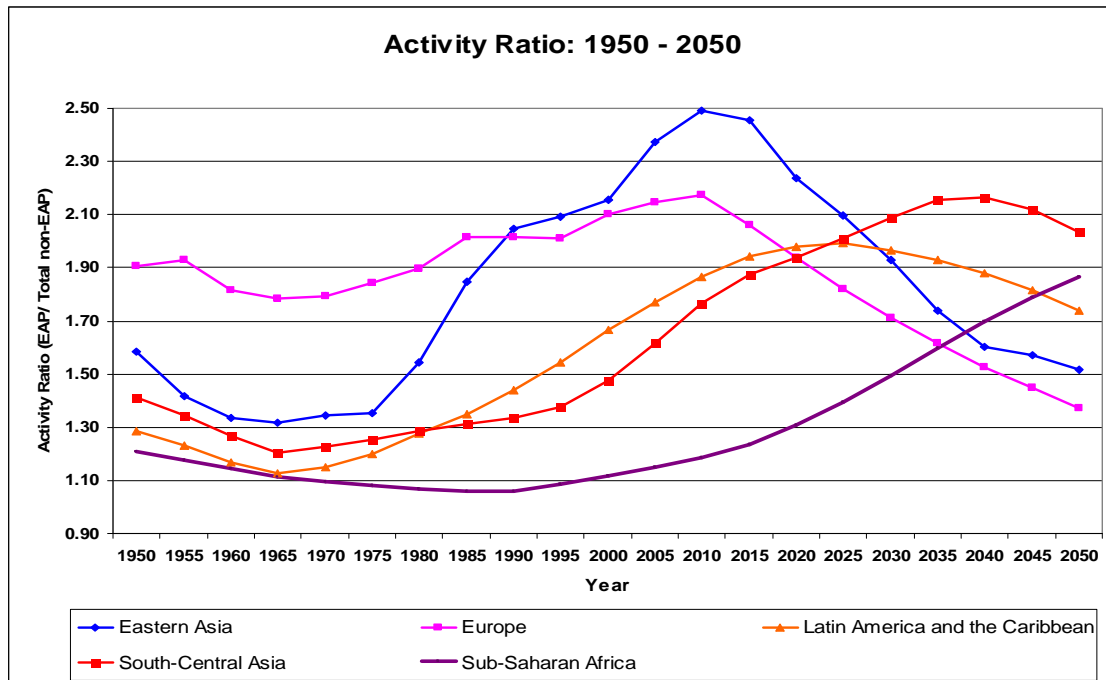
Source: United Nations, *World Population Prospects, 2006 Revision*.

Note: for the definition of regions see: <http://esa.un.org/unpp/index.asp?panel=5>

Figure 1 illustrates the consequences of staggered and differentiated demographic transitions. Due to its high population growth rate since the 1960s (higher than 2.5% per year over 40 years, with a peak at 3% in the 1980s), Sub-Saharan Africa had to deal in the 1980s and 1990s with the weakest activity ratio ever recorded, with approximately only one active person per inactive person (and less than one active in some Sub-Saharan Africa countries). This heavy burden must be put into perspective with these two decades of economic crisis and structural adjustment, thus shedding new light on the SSA context. During the same period, East Asia benefited from an outstanding demographic dividend with 2.5 active persons for one inactive person, which certainly fuelled the economic growth of the region (Bloom et al. 2001). South Asia, which has a 30-year delayed transition, should only get this demographic windfall around 2035; SSA will have to wait after 2050 to potentially reap the benefits of a more favorable demographic structure.

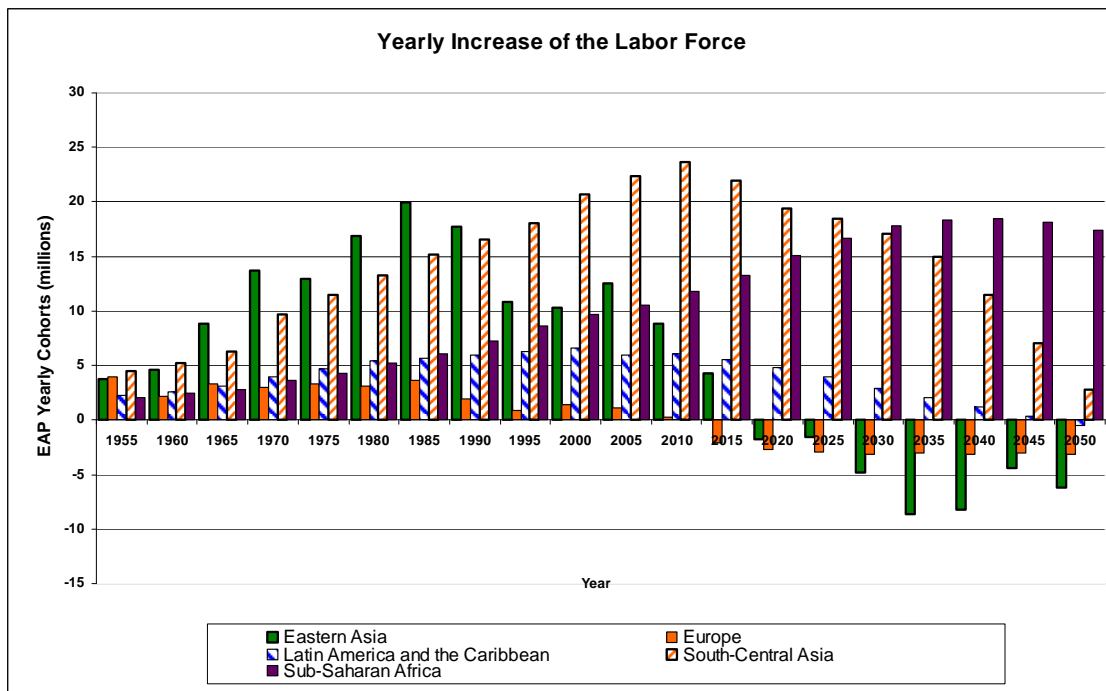
When we translate these different demographic trends not only into global population increase but into yearly cohorts of people, and particularly into yearly cohorts of labor force, we have a clear indicator of what the labor supply and demand for jobs should be in the coming decades. Figure 2 shows the same delayed trends between the main growing regions and provides an estimate of the needs for absorption by the various economies. In Sub-Saharan Africa today, the yearly cohort of new EAP is around 10 million people and should reach a peak near 20 million in the 2030s. For a median SSA country – e.g. 15 million people – the yearly cohort is 250,000 in the 2000s and is expected to be 400,000 in 2025.

Figure 1: Activity ratio by region: 1950-2050



Source: World Population Prospects, 2006 revision.

Figure 2: Yearly increase in the labor force by region: 1955-2050



Source: World Population Prospects, 2006 revision.

2.1.4 Structural transformation in an open global economy

As was previously discussed, the existing productivity and competitiveness gaps are consequences of the confrontation between staggered and delayed processes of economic transition in an open world economy. Delayed demographic transitions add another challenge when large cohorts entering the EAP increase pressure on employment. On one side, this push is a considerable market opportunity, as rising domestic markets will fuel economic growth. On the other side, national economies will have to absorb this population increase and provide labor opportunities – or sectors of activities for self-employment – to these new cohorts.

The degree of challenge presented by these trends depends heavily upon the stage in the structural transformation of every economy (i.e. share of the different economic sectors in GDP, intersectoral linkages, human capital, infrastructure and provision of public goods). Economic diversification opens up the range of alternatives for people who are no longer able to sustain their livelihood from agriculture and who must find an “exit option”.

Annex 1 presents a statistical overview of the RS program countries’ economic characteristics comparing them with those of four emerging economies – Brazil, Chile, Thailand, and Indonesia. This comparison, based on the 1960-2005 period, exemplifies what economic transition is and the various charts strongly show the rapid decrease among the comparative countries of the share of agriculture in the various economic aggregates (GDP, EAP, and trade) and the very slow pace of change among the RS countries. Mexico, chosen as a background reference for its 20-year liberalization and integration process, clearly appears as an exception with characteristics close to the ones of the emerging economies. While Brazil, Chile and Mexico started their structural transformation in the 1940s and 1950s, prior to the period under review, Thailand and Indonesia amazingly illustrate the rapid change over 40 years.

One of the main questions is to explore the reproducibility of the historical sequence of structural change. Will developing countries follow the same pathway as demonstrated through history or will they be confronted with difficulties related to the simultaneous challenges of globalization and demographic transition? The common approach today is to consider that this pathway is an obvious fact, confirmed by history, and that there is no justification to dispute this approach. Timmer and Akkus (2008) show that if countries are lagging in the process of structural change it is mainly related to economic growth difficulties and not to the pattern of change alone.⁵ However, it seems important to highlight the need for a historical perspective, which must be kept in mind to discuss the

⁵ Timmer and Akkus have tested the evolution of the structural pattern in 86 countries. The results confirm the robustness of this historical process. The authors included the seven RS program countries in the sample, which do not exhibit strong divergence from the general pattern.

on-going process of structural change: the “moment” in world history when the transition occurs – or becomes possible – matters, because opportunities, constraints and balance of power evolve and provide different room to maneuver within economies and societies engaged in the process of change (Gore 2003).

The case of the past economic transitions strongly illustrates this issue. The characteristics of the Western European and North American transitions over the 19th and the better part of the 20th centuries cannot be disconnected from European and American political hegemony which expressed openly through colonization, unequal treaties or, indirectly, through influence zones. This hegemony reduced or eliminated competition but also allowed very attractive situations of both supply and demand, with captive markets, which facilitated specialization and industrialization, and also increased accumulation through profitability of businesses. The European transition and “new worlds” development, which are totally intertwined, were also boosted by a unique flow of international migration (Hatton & Williamson 2005) made possible by Europe’s hegemonic position. Between 1850 and 1930, nearly 60 million Europeans migrated to the Americas (35 million to the USA alone), Australia, New Zealand, and Africa. These migrations facilitated the adjustment of European economies and the management of the surpluses of labor resulting from rural depopulation and the insufficient pace of job creation in other sectors, despite a strong process of industrialization.

The cases of the emerging economies of Latin America and Asia, which are frequently called into the debate to confirm the ineluctability of structural change, must also be discussed in the historical context of when their structural change happened. For all these countries, the transition occurred during a very specific period of national self-centered development, which characterized the world international regime between the 1929 crisis and the current new globalization era, starting at the end of the 1970s (see Giraud 1996). Everywhere in the world, nation-states implemented their own “development projects” (McMichael 1996) characterized by import-substitution, protection and strong state intervention. The role of public policies was determinant for both industrialization (Evans 1995) and agriculture modernization (Djurfeldt et al. 2005) and initiated the so-called “developmental state”. The independent Latin American countries engaged in this process between the two World Wars; they were followed by many Asian countries that were decolonized in the early 1950s; and, in both cases, the Cold War period funding played a significant role. The results of this state-led development were uneven but they always deeply shaped the economic and institutional environments and prepared further changes.

Today, the situation of the developing countries that stay at the early stages of the economic transition, particularly in Sub-Saharan Africa, is more constrained by the characteristics of globalization. Indeed, if we refer to the three pathways out of rural poverty proposed by the WDR08, the third pathway – migration to cities or abroad – is critical for many developing countries.

Firstly, although international migration is a growing issue in development studies with reference to the impact of remittances, the main migration flows stay concentrated in the ‘contact’ regions peripheral to the EU and the USA. The options will likely depend on the

demographic evolution of the industrialized countries and their reliance on foreign labor, as the current geopolitical order does not allow the same process of mass-migration that occurred at the end of the 19th century.

Secondly, a major characteristic of developing world cities' growth is a process of urbanization without industrialization, illustrated by the dramatic expansion of slums (UN-Habitat 2003, Davis 2006). This "low regime urbanization" is particularly prevailing in Sub-Saharan Africa and is a main difference when compared with Europe and the USA during the 19th and 20th centuries, and with some regions of the developing world previously engaged in structural change (typically but partially China, India) where industrialization fueled rural depopulation based on labor demand. Today, migration to cities is not systematically related to job access, higher income and better life because the process of industrialization is constrained by international competition and does not initiate the same labor demand.

This observation serves as a reminder that productivity gaps are not limited to agriculture and concern other sectors of activity. For many DCs, although low labor costs are a clear comparative advantage, the differences in other factor costs (particularly capital), in labor skills, and in economic and institutional environments reinforce the asymmetry in competitiveness patterns. For countries that are less endowed, these differences are a real obstacle in the process of structural transformation when their infant sectors have to confront world champions on the global markets. This is the case for SSA and many other low-income and lower-middle-income countries versus developed or emerging economies.

In Sub-Saharan Africa, where agriculture still plays a large role, with on average 60% of the total EAP engaged in agriculture and a modest structural evolution over the last 40 years, the situation is extremely challenging and there are significant risks of transition impasses, reflecting the difficulty of alternative options.

2.2 Hypotheses of the program

This discussion on the consequences of global changes on economic and social structures and on the agricultural and rural dynamics of developing countries directly shaped the rationale of the RuralStruc Program and its hypotheses. While the trade liberalization debate focused on the expected gains of the liberalization process and its consequences on poverty (see Box 1) and also engaged in its potential employment dimensions (Winters et al. 2004, Hoekman & Winters 2005), the program objective was to investigate more particularly the characteristics of economic transition within globalization and to elaborate on possible structural difficulties and not only on transitional problems (which is the common view of the international debate).

Three embedded hypotheses were advanced. First, the global restructuring of the agrifood markets and the increasing asymmetry within the international competition lead to both the development of differentiation processes among farm structures, and also marketing, transformation and distribution structures. This hypothesis raises several questions: What

is the balance between the potential integration of farmers in the new value chains and their possible exclusion? What are the amplitude, rapidity, and characteristics of these processes? Do they induce a segmentation dynamic with concentration, marginalization and, sometimes, exclusion, within and from the farm sector leading to the emergence or consolidation of multiple-track agriculture?

The second hypothesis refers to the existing processes of adaptation among rural households as a response to the many changing factors in agriculture and their impact on farms' viability. Rural households engage in new configurations of activities and income characterized by a changing role of agriculture and a growing importance of off-farm activities and transfers (private transfers related to migration and, possibly, public transfers linked to specific support systems). Questions relevant to this hypothesis include: What are the characteristics of these new configurations? How do they differ between countries? Are they new dynamics or do they follow the historical paths of structural transformation? Are they effective answers for rural livelihoods sustainability?

Consequently, the differentiation dynamics within agriculture and the possible difficulties of rural households' adaptation constitute risks of transition impasses within the process of structural transformation. This is the third hypothesis, which refers to the characteristics of the "agriculture based" countries, where the weight of agriculture in the employment and activity structures, the low regime urbanization, the limited economic diversification in a context of growing international competition, and heavy demographic pressure, all create a unique challenge for development. Will some countries face impasses in escaping poverty due to a lack of alternatives (Kydd 2002), and what are the potential social, economic, and political consequences of such dead-ends in the economic transition?

2.3 Design of the program

To assess the relevance of the hypotheses and to answer their related questions, a comparative approach seemed most appropriate. This approach included a set of developing countries with the objective of identifying the main similarities and differences in their processes of adaptation to the new context within their own trajectories of structural change. Simultaneously, it was necessary to implement the program with a collaborative framework engaging local teams in an "inside process" of analysis with the dual objective of a "better understanding for a better policy making" (this statement is the sub-title of the program).

To support the implementation of the program, two bodies are dedicated to its governance: (i) a Steering Committee, including all the trust fund contributing donors, is responsible for the follow-up of the activities and budget execution; and (ii) an Advisory Committee, consisting of academics and researchers from six countries, provides guidance on the orientation and development of the program and its members will act as peer-reviewers upon completion.

2.3.1 A comparative approach

2.3.1.1 *Country selection*

To engage in the comparative approach, it was decided to select a sample of countries corresponding to a spectrum of situations within the process of liberalization and economic integration, including, on the one side, countries that are far ahead in this process and, on the other side, countries where the pace of liberalization and integration to the world economy has been slow and/or unequal.

The country selection resulted from discussions between the contributing donors and subsequently with the local partners.⁶ It was decided that a specific focus on Sub-Saharan Africa was justified by the critical structural situation of the continent and the many commitments of both the international community and the African governments to revitalize the agricultural sector.⁷

Further to the criteria above, the selection was based on two specific macro-economic criteria: the GDP per capita and the AgEAP, which are indicators of the country's stage within the economic transition. As a consequence (with the exception of Mexico) the selected countries are low-income or lower-middle-income countries, and have a significant level of their economically active population involved in agriculture (see annex 1 and § 3.2). The demographic size was also part of the selection process in order to avoid extremes⁸ – particularly the most populated countries, which offer broader options regarding the process of structural transformation.⁹ Again, the selected countries have a small to middle demographic size between 5 and 35 million inhabitants (except,

⁶ In each country, the program, its objectives and expected outputs were officially introduced by the World Bank and discussed with its counterparts.

⁷ For example, on the donors side, the UN Millennium Project's Task Force on Hunger, the Commission for Africa Report, the Africa-EU Partnership, the World Bank Africa Action Plan (AAP) and, on the governments side, the Comprehensive Africa Agriculture Development Program (CAADP) defined by the New Partnership for Africa's Development's (NEPAD) and endorsed by the African Union Maputo declaration (2003) stating a commitment of 10% of African government expenditures dedicated to agriculture and rural development within five years.

⁸ One must keep in mind that among the 192 members of the United Nations, only 25 countries count more than 50 million people, 50 count more than 20 million, but 80 have less than 5 million inhabitants.

⁹ Predictably, this view is disputable. There is no direct correlation between economic transition and demographic size and there exists significant counter-examples on both sides. However, in the context of increasing competition linked to globalization, economies of scale related to large domestic markets offer additional room for maneuver (this is particularly the case for industrialization, as well as for research and/or capacity building). Regional economic integration is, of course, the main option for "small" countries.

again, for Mexico). These criteria precluded the selection of any Asian countries, as many countries of the continent deal with bigger dimensions.¹⁰

The choice among the SSA countries reflects the diversity of situations among low-income countries (Madagascar, Mali, and Senegal being in the Least Developed Countries group - LDCs) with reference to their geographical situation (Southern, East and West Africa, including a land-locked country, Mali), their colonial history, their activity structure including the role of migrations, and the state of the national debate around privatization.

The specific cases of Nicaragua¹¹ and Morocco, two lower-middle-income countries, are direct and powerful examples of countries facing the challenges of managing rapid transformation processes in a context of free trade agreements (with the European Union and/or the United States) and where the weight of international migration plays a big role.

Despite being an exception to several selection criteria, including Mexico (an upper-middle-income country, OECD member and emerging economy) was justified by its anteriority in the integration process through the implementation of the NAFTA in 1993. Indeed, Mexico provides a useful background picture of the impacts of deep liberalization and integration processes with strong impacts on agriculture and the rural economy on the whole. It is also a reference case for international migration, which plays a decisive role in the processes of adaptation to deeper integration.

With reference to the WDR08, the selected countries represent the three worlds of agriculture: “agriculture-based” (Kenya, Madagascar, Mali), “transforming” (Senegal, Nicaragua and Morocco), “urbanized” (Mexico).¹²

2.3.1.2 *Operationalizing the comparative work*

The RuralStruc Program was conceived with two main phases and involves several knowledge sharing workshops. The main objective of the first phase was to generate

¹⁰ If we exclude the former USSR Republics and the conflict and post-conflict countries, the alternatives are limited. Malaysia could have been an interesting case, even if already deeply engaged in its structural transformation.

¹¹ To illustrate the CAFTA countries and identify the possible country cases, support was provided to the coordination team by RUTA (*Unidad regional de asistencia técnica*), platform for sustainable development in Central America. Guatemala and Honduras were alternative options. However, Nicaragua was selected for operational reasons.

¹² Having Senegal, a country with 73% of its EAP in agriculture (2003), in the “transforming world” illustrates the ambiguity of using “rural” (and rural poverty) as a category for the analysis. The definition of rural varies between countries and has a restrictive definition in Senegal. Nicaragua is not referred to in the “three worlds” analysis, which excludes countries below the 5 million inhabitants limit (even though Nicaragua passed this limit in 2000). However, using the same criteria, Nicaragua would be part of the “transforming countries” group.

broad country overviews based on desktop studies and gathering all the available information on the role of agriculture in the economy, on market structures and their evolution, on development and differentiation of farm structures, and on risks of impasses and possibilities for adaptation. Simultaneously, this first phase was an opportunity to identify the missing information related to the processes of structural change within agriculture and to share views on the general approach of the program with the national partners.

The second phase was designed to produce specific information through more detailed case studies both at the regional and sectoral levels. This phase involves fieldwork including household surveys and interviews targeting the relevant issues brought up in the first phase.

The comparative perspective is not to make comparisons between countries (for instance Mexico and Madagascar), as this would make little sense and could lead to classical selection bias.¹³ Simultaneously, facing the classical challenge of ex-post analysis, the goal is not to evaluate “impacts” – the term was carefully avoided in the title of the program and “dimensions” was preferred – because it would lead to information difficulties (particularly the lack of years of reference for evaluation) and to a risky discussion on causalities of change. On the contrary, the objective is to illustrate processes of change in agriculture and the rural economy related to liberalization and globalization so as to identify regularities and differences, the understanding of which can be useful for policy making. The approach is to adopt a global multi-disciplinary and historical perspective of the dynamics of change, by giving attention to the national trajectories and their “critical junctures”,¹⁴ which can modify the nature of relationships between agriculture, the rural sector and the overall economy.

2.3.2 A local partnership framework

In order to foster ownership of the knowledge process (data gathering and data creation, analysis, results sharing, and dissemination), the implementation of the program is based on a local partnership, the final goal of which is to facilitate the policy debate. To this end, two types of partnership were identified, one at the institutional level and a second at the operational level.

¹³ Due to the selection process and the self-selection of the country cases, any conclusion from direct comparison to explain variables would suffer from systematic error (cf. Collier & Mahoney 1996).

¹⁴ The critical juncture refers to the concept of path dependence and designs a “key choice point” when a particular option is selected by governments, coalitions, or social forces among other alternatives and leads to the creation of recurring institutional patterns (see Mahoney 2001, Pierson 2000).

The institutional counterparts are public bodies or policy dialogue platforms engaged in the policy debate, that are interested by the objectives of the RuralStruc Program and the dissemination of its results with the goal of feeding discussions about the future of agriculture and rural development. They are:

- ministries in charge of agriculture in Kenya, Mali, Mexico, and Nicaragua;
- the *Conseil Général du Développement Agricole* (CGDA) in Morocco;
- the *Programme d'Action pour de Développement Rural* (PADR), hosted by the Prime minister cabinet, in Madagascar and;
- the *Initiative Prospective Agricole et Rurale* (I-PAR) in Senegal, a platform joining the agriculture research institute, rural producers' organizations, NGOs, and the ministry of agriculture.

The contributing partners in charge of the implementation of the research work are locally based private consulting bodies, research institutions or universities, and sometimes, ad hoc teams specifically set up for the work program. The first phase partners are:

- in Kenya, the *Tegemeo Institute* (University of Egerton);
- in Madagascar, *APB Consulting*;
- in Mali, the *Centre d'Expertises Politiques et Institutionnelles en Afrique* (CEPIA) with the *Institut d'Économie Rurale* (IER);
- in Mexico, the *Facultad Latinoamericana de Ciencias Sociales* (FLACSO);
- in Morocco, the *Institut Agronomique et Vétérinaire Hassan II*;
- in Nicaragua, the *Instituto Nitlapán* (Universidad Centroamericana);
- in Senegal, the *Association Sénégalaise pour la Promotion du Développement à la Base* (ASPRODEB).

3 Results of the first phase of the program

The activities implemented during the first phase of the program in every participating country, during the sharing workshops, and through additional literature review, have provided an overview on the processes of change, which are central to the program's hypotheses. As expected, the local teams engaged in desktop studies and generated information presented in their first phase reports. This information was disseminated at the country level and helped in the design of the on-going second phase.

The following section presents the main results of the first phase of the program, its implementation (§ 3.1) and discussions of its core hypotheses. It proposes an assessment of what is known about the employment challenge in countries that remain submitted to a strong demographic growth, highlights the role of agriculture, and discusses the other economic alternatives (§ 3.2). Then a review of the processes underway related to the agrifood restructuring allows a first insight into their development and consequences for farm structures and a preliminary discussion on the differentiation and segmentation issue (§ 3.3). The section finishes with a quick reference and introduction to the reshaping of the rural economies on which information is limited and justifies ad hoc data collection (§ 3.4).

3.1 Implementation of the program

3.1.1 A knowledge sharing process

3.1.1.1 Main steps of the first phase

The first phase, originally designed for a period of six months, started with a launching workshop in M'bour, Senegal, on 11-13 April 2006, bringing together representatives of every national team. The main objectives of the workshop were a broad discussion on the rationale of the program and its design, a presentation by the national teams of the main characteristics of agriculture and of rural and agricultural policies in their country, and a detailed discussion about the content of the first phase. It was agreed to structure the first phase report on the following (i) the role of agriculture in the economy, (ii) the market structures and their evolution, (iii) the evolution and differentiation of farm structures,

and (iv) the risks of impasses and possibilities for adaptation.¹⁵ The workshop was also an opportunity to start a collaborative dynamic between the seven national teams.

The operational design, objectives and launching of the first phase were presented to the first Steering Committee of the donors on 8 June 2006. Subsequently, preliminary reports were sent by the national teams in October and early November 2006 and initiated a first round of discussions with the coordination team. It helped with the preparation of a second sharing workshop, which was held in Marrakech, Morocco, on 20-25 November 2006, to present and discuss the results of the first phase, and to draw preliminary conclusions.

Based on the discussions in Marrakech and after a revision process, final reports were submitted to the coordination team between the end of January and early March 2007.¹⁶ Preliminary results of the first phase, based on its implementation and an initial cross-analysis of the national reports, were presented to the first Advisory Committee of the program held in Washington, at the World Bank Headquarters on 23 March 2007. The meeting was also an opportunity to discuss the overall rationale, objectives, and challenges of the program with academics and experts. The Advisory Committee strongly supported the positioning and objectives of the program, drawing attention to the means needed to conduct this ambitious work (particularly timeframe, budget and human resources), and recommended an assessment of the feasibility of specific field surveys for the collection of genuine and updated data. It also suggested postponing the start of the second phase until September 2007 to provide the coordination team more time for the careful preparation of this core part of the program.

The Advisory Committee was followed by the second Steering Committee of the donors on 28 March 2007, which discussed the development of the program and the recommendations of the Advisory Committee. The Donors Committee validated the postponement of the launching of phase two until September 2007.

3.1.1.2 First dissemination

As decided when the program was designed, and due to its objective of contributing to the local policy debate, the national teams organized different events throughout and after completing the first phase. These presentation meetings or one-day workshops targeted

¹⁵ In May 2006, the coordination team sent a detailed and commented table of contents, based on the discussion during the workshop. In parallel, an internal website for the program was created to share and group information – bibliography, background documents, workshops presentations, statistical data. A database was created by the coordination team to help national teams with international data resources on agriculture (July 2006).

¹⁶ The only exception is the Malian report. The final version was only submitted in July 2007 because of staff difficulties within the team, which delayed the revision suggested by the World Bank and an earlier approval of the report.

different audiences depending on the local configuration and the situation of the local debate. The box below provides a summary of the dissemination process.

Kenya and Mexico's teams did not formally present their results. This situation is explained by different contexts. In Kenya this is, of course, related to the political situation (the period before the presidential election and the subsequent political events). In Mexico, this was a choice of both the national team and the World Bank. In this country, due to the number and standard of research institutions, universities, and NGOs, the local debate on agriculture and rural issues is fed by an abundant flow of surveys, studies, and research supported by year-round publications. As a consequence, and because the first phase was mainly an overview on the existing information, it appeared preferable to keep the dissemination for the presentation and discussion of the final results of the program, which will provide new perspective based on specific field work.

Box 7: Dissemination process of the first phase results in the RS countries

Madagascar

20 September 2006 - roundtable on the first results with ministries, donors, university and researchers

16 May 2007 - presentation of the first phase report to ministries, donors, university and researchers

Mali

08 November 2006 - roundtable on the first results with ministries, chamber of agriculture (APCAM), rural producers' organizations (AOPP), and consumers' association

07 December 2007 - Ministry in charge of agriculture, General Secretary – presentation of the first phase report and of the objectives of the second phase

Morocco

13 March 2007 - *Conseil Général du développement Agricole (CGDA)* – presentation of the first phase report

Nicaragua

20 September 2007 – workshop organized by the Ministry in charge of agriculture (MAGFOR) with the Finnish Cooperation and the World Bank

Senegal

23 March 2007 - *Initiative Prospective Agricole et Rurale (I-PAR)* – presentation of the first phase report

25 June 2007 - the seven rural producers' organizations platforms of Senegal

07 July 2007 - Mouvement social pour le Développement (MSD) Platform

27 July 2007 - debate at the University Cheikh Anta Diop of Dakar, co-organized with Editions *Clairafrique*

04 January 2008 - Ministry in charge agriculture, DAPS – presentation of the first phase results, of the dissemination process, and of the objectives of the second phase

In addition to the presentation meetings, debates and roundtables, some national teams also took specific initiatives. In Senegal, the first phase report was posted on the I-PAR website to share information and also to open its results to discussion, see:

<http://www.prospectiveagricole.org/actualite.html>.

In Morocco, the team chose to publish the first phase report to facilitate its dissemination.¹⁷ In Madagascar and Kenya, the teams contributed to an academic article and a book chapter, in collaboration with other researchers.¹⁸

In parallel, a webpage presenting the program, its objectives, sequences, and governance structure, was posted on the World Bank extranet, see:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,menuPK:311690~pagePK:146732~piPK:64087638~theSitePK:258644,00.html>

3.1.2 The knowledge challenge

3.1.2.1 Gaps and conceptualization

Highlighting the importance of the “knowledge challenge” is probably one of main results of the first phase of the RuralStruc Program. The weakness of the knowledge-base and the importance of information gaps regarding agriculture and rural development, and more precisely the processes of structural transformation of rural economies, are a common concern shared by national stakeholders and the international community, particularly the donor community.

In every country national teams faced specific difficulties regarding data availability, data age, and a lack of available information to inform the issues raised by the RuralStruc Program: employment, household activities and incomes (on-farm, off-farm, agricultural and non-agricultural), migration and remittances, connection to markets, integration and contractualization with global value chains, etc. On all these themes, information mainly relies on case studies, from which it is difficult to draw general conclusions or perspectives. The review of the main results of the first phase will highlight these information gaps, particularly about the reshaping of the rural economies (see §3.4).

The following section provides some insight on the current situation and difficulties posed by the existing information systems, both at the international and national level. However, one must keep in mind that the challenge of providing evidence on the processes underway in agriculture and rural economies cannot be reduced to updating: as we are reminded by Laurent (2007), the fundamental issue lies in the conceptualization of

¹⁷ Akesbi N., D. Benatya and N. El Aoufi (dir.), 2008. *L'agriculture marocaine à l'épreuve de la libéralisation*, Economie Critique Editions, Rabat, 175p.

¹⁸ Dabat M.H., B. Gastineau, O. Jenn-Treyer, J.-P. Roland, C. Martignac and A. Pierre-Bernard, 2008. “L’agriculture malgache peut-elle sortir de l’impasse démo-économique ?”, *Autrepart*, No. 46, p. 189-202 ; and Anseeuw W., S. Fréguin-Gresh and P. Gamba, 2008. “Une nouvelle politique agricole au Kenya: nécessaire mais suffisante?”, in Devèze J.-C. (Dir.), *Défis agricoles africains*, Karthala-AFD, Paris, p. 209-229.

the new roles of the agricultural activity within the activity nexus (types of income generation, combination of systems of income and activities, multi-purpose strategies, etc.).

3.1.2.2 Existing data

- International databases

The main hurdle encountered when trying to compare the rural situations among developing countries is the availability and precision of data. Most of the time, international comparisons rely on databases created by international institutions; unfortunately, these databases often lack consistency and accuracy.

Consistency and accuracy problems can be seen easily when comparing figures extracted from different databases that are supposed to reflect the same indicator. Several reasons can easily be advanced to explain this situation (e.g. institutions do not use the same sources; they do not implement the same methodology to aggregate data; they do not refer to the same definition for what seems to be the same indicator, etc.). As a result, the use of different databases can lead to very different conclusions about the situation within each country and among countries. Researchers should strongly stress this issue when drawing conclusions for policy makers based on international databases, regardless of the consistency and the reliability of their methodologies; however, this is rarely the case.

When dealing with agricultural issues with a comparative approach, the main source of data is FAOSTAT, produced by the FAO. FAOSTAT is based on national data provided by countries and that are mainly derived from national censuses (particularly agricultural censuses) and are completed with yearly surveys on agricultural production. Even though this international database is often criticized about the reliability of its statistics, it remains the main reference of many analyses.

Specific databases have been developed either to improve information or to meet specific needs depending on the kind of data required. On the issue of rural activities and diversification, this is the case of the Rural Income Generating Activities database (RIGA) project developed by the FAO and the World Bank (see § 3.4 and Box 19 for more information).

Similarly, for employment issues, Bezemer and Hazell (2006) use the Groningen Growth and Development Centre (GGDC) database to carry out prospects on the number of people that would exit agriculture in the near future around the world – a theme of direct interest for the RS program. They “*chose this data set over the more usual World Development Indicator data because serious anomalies and gaps were found in the latter data. In particular, the number of observations on agricultural employment is smaller [...*

which] *precludes estimation work by decade and increases the dependence of the results on a few observations*” (Bezemer & Hazell 2006, p. 4-5). However, GGDC labor force series for African countries are largely obtained from the World Development Indicators (WDI), which relativizes the initial methodological precautions.¹⁹

- National data

National statistical systems are uneven and often provide irregular information based on ad hoc surveys, like the Living Standards Measurement Studies (LSMS). National (population) and agricultural censuses remain decisive tools because they allow for applications that range from very general to very specific. From a strictly statistical standpoint, census data represents one of the most important components of the information system in a country and can serve as the basis for many research activities related to the agricultural sector. One can argue about the availability, the quality, and the reliability of censuses in developing countries; however, national and agricultural censuses are an invaluable source of data because of their large scale (notably for basic population statistics) and their methodology, which permits a breakdown to small geographical units (UN 2007).

Nevertheless, in specific research such as the RS program, the use of agricultural censuses can highlight several fundamental limitations and constraints of this approach, perhaps most notably the difficulty of capturing the reality of the rapidly evolving rural and agricultural situations of the developing countries. A fundamental limitation of utilizing agricultural census data for the RuralStruc Program’s purposes is that the census approach centers on farm structures, which creates two obstacles. First, the data do not provide a broader view on the family or household levels, particularly on household members indirectly linked to, but not necessary involved in, farming activities. They do not allow an understanding of the progressive reshaping of the rural households, nor of the emergence of new systems of activity and incomes, and they are not helpful for the estimation of the new roles of agriculture. From farm perspective, they are also logically inappropriate to provide information about off-farm employment and landless farmers. Second, the focus on production (crops, acreage, and rotation) does not allow one to capture the various types of farm connections to markets, which are decisive for analyzing the sustainability of farming activities.

Another fundamental disadvantage of census data is the infrequency of agricultural censuses. Between 1950 and 2007, most of the RS program countries did not undergo

¹⁹ These problems of data availability and data harmonization, particularly in the case of employment, have been raised several times at the international level. A Regional Employment Forum of technical experts and policy facilitators will soon be established under the Economic Commission for Africa (ECA), in collaboration with ILO and African regional institutions (ILO 2007).

more than two or three censuses, hence limiting the capacity to feature and understand the evolution of their agricultural situation (Table 3).

A final issue with agricultural censuses is that they do not incorporate detailed agricultural labor force data. These data are necessary to address broader economic and social issues concerning agricultural employment and the absorption capacity of the overall economy. As far as labor force data are concerned, one must rely on international sources. On this issue, the main source of information is, again, the FAO database.

Table 3: Agricultural censuses in the RS program countries since 1950

Countries	Years of agricultural censuses	Elapsed years since the last agricultural census
Kenya	1977	21
Madagascar	1961,1984, 2004	4
Mali	1984, 2004	4
Morocco	1974, 1996	12
Mexico	1950, 1970, 1981, 1991, 2007	1
Nicaragua	1963, 1971, 2001	7
Senegal	1961, 1998	10

Sources: RS country reports, FAO Agricultural World Census.

Table 4: Population censuses in the RS program countries since 1950

Countries	Years of population censuses	Elapsed years since the last population census
Kenya	1962, 1969, 1979, 1989, 1999	9
Madagascar	1975, 1993	15
Mali	1976, 1987, 1998	10
Morocco	1960,1971, 1982, 1994, 2004	4
Mexico	1950,1960,1970,1980,1990, 2000	8
Nicaragua	1950,1963,1971, 1995, 2005	3
Senegal	1955, 1976, 1988	20

Sources: RS country reports, FAO Agricultural World Census.

Another constraint when discussing national data concerns the definitions countries use for “rurality”, which tend not to be comparable among countries. There are two main definitions of rurality: one based on the delimitation of administrative areas such as municipalities, and another based on variables such as “population level” and “population density” that does not specifically correspond to administrative boundaries. Countries may combine these two different approaches in their own definition of rurality. Moreover, when rurality is defined on a settlement basis (home of the household), censuses do not consider that a rural household may have diversified activities, which can be located in both rural and urban areas, as in the case of temporary migration for instance. For our purpose, these limitations generate difficulties because of our cross-country comparative approach.

These drawbacks of international and national databases emphasize the need to develop methodologies and additional information to fully capture the complexity and the diversity of rurality among developing countries.

3.2 First overview of the employment challenge: agriculture and its alternatives

In the “agriculture-based countries” and in the “transforming countries” agriculture remains the sector absorbing most of the new EAP. Among these countries, the on-going demographic transition that characterizes Sub-Saharan Africa and South Asia puts additional pressure on employment. This section describes the demographic challenge and its implications on the labor market; in addition, it explores the substantive role played by agriculture and its ability as a sector to carry on absorbing a large share of the additional working population. It also puts forward the limited exit options available for the youth entering the labor market.

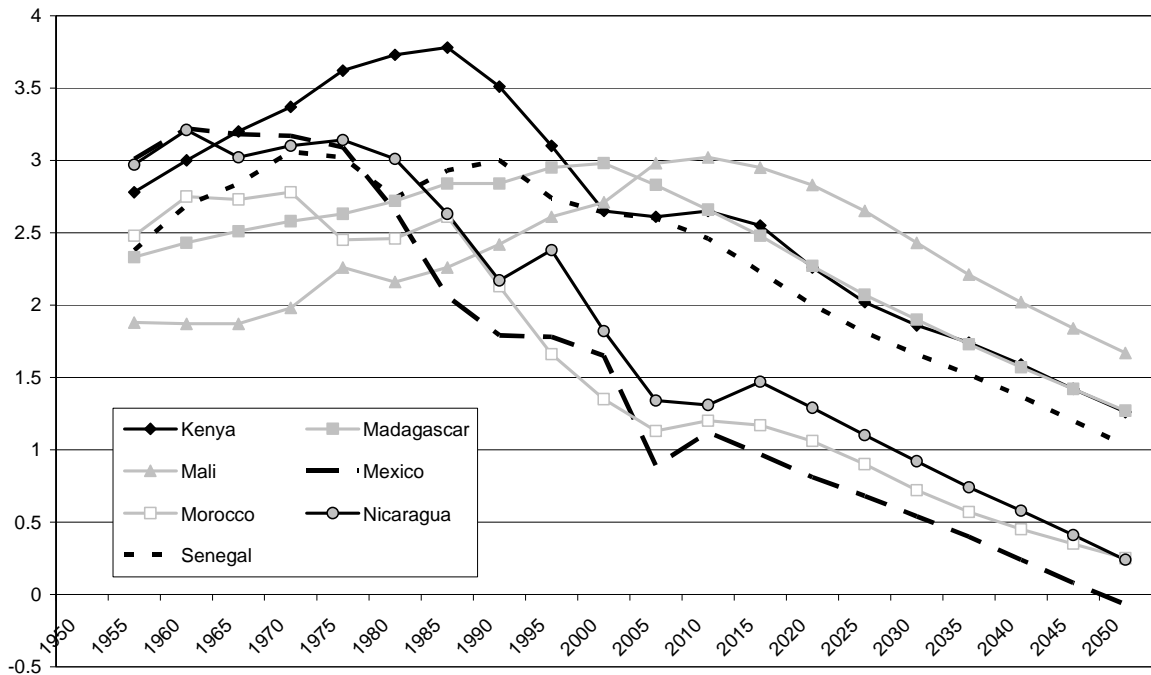
3.2.1 Prospects: a massive increase of labor supply over the next decades

3.2.1.1 *An awaited demographic transition*

The RS countries are following considerably different patterns of demographic transition. Mexico and Morocco have recorded a sharp decline in their population growth since the 1970s, with a present growth rate very close to 1% (Figure 3). In stark contrast, the Malian population growth rate continues to increase and should reach a maximum of around 3% in 2015. In between are Senegal and Madagascar, which have been experiencing declining growth rate trends since the end of the 1980s and 1990s respectively; however, these decreases are much less abrupt than those in Mexico and Morocco: Senegalese and Malagasy growth rates remain very high – among the highest in the world – between 2.4 and 2.8%.

Kenya has followed a different demographic evolution than the other SSA countries. With the exception of the Southern African countries deeply affected by the devastating impact of HIV/AIDS, the Kenyan curve is unusual in the African context and reflects the specific demographic dynamic of a country which shows a clear and early decrease (since 1980s) of its population growth rate. Following the main explanations provided in the literature on the Kenyan case, several elements combined to contribute to this decrease (Collomb 1999). First was the early political will of the Kenyan government to better understand the demographic dynamics (national surveys on contraception, demography of health, and fecundity), which translated into targeted public policies with strong family planning programs (wide development of contraception), the implementation of a well-structured health system, and an increase in the education; second was the role played by non-governmental organizations (the country has one of the highest concentration of NGOs in all of Africa); and finally the consequences of a health crisis that includes HIV/AIDS and the resilience of other diseases such as malaria and tuberculosis (RS Kenya, p.131). However, this decreasing trend came to a halt in the first decade of the new millennium, which clearly demonstrates the worsening national context and fading public intervention.

Figure 3: Population growth rate of the RS countries, 1950-2005



Source: World population prospects, 2006 revision.

The main consequence of these population growth rates is the continuously increasing population (Table 5): in the four SSA countries, the demographic growth rate should be over 2% until 2025-2030 and the population could increase two to threefold by 2050 compared to 2010, i.e. a population increase supposedly ranging from a lower 12 million in Senegal to a higher 44 million in Kenya. In the other RS countries, the population could only raise from 20 to 30%.

Table 5: Evolution of the population of the RS countries, 1950-2050 (in millions)

	1960	1990	2010	2050	Variation 2010-2050	Variation 2010-2050
Kenya	8.1	23.4	40.6	84.8	44.1	109%
Madagascar	5.4	12.0	21.3	44.5	23.2	109%
Mali	4.0	7.7	13.5	34.2	20.7	153%
Mexico	37.9	84.0	110.3	132.3	22.0	20%
Morocco	11.6	24.8	32.4	42.6	10.2	32%
Nicaragua	1.8	4.2	5.9	7.0	1.1	18%
Senegal	3.3	7.9	13.3	25.3	11.9	90%

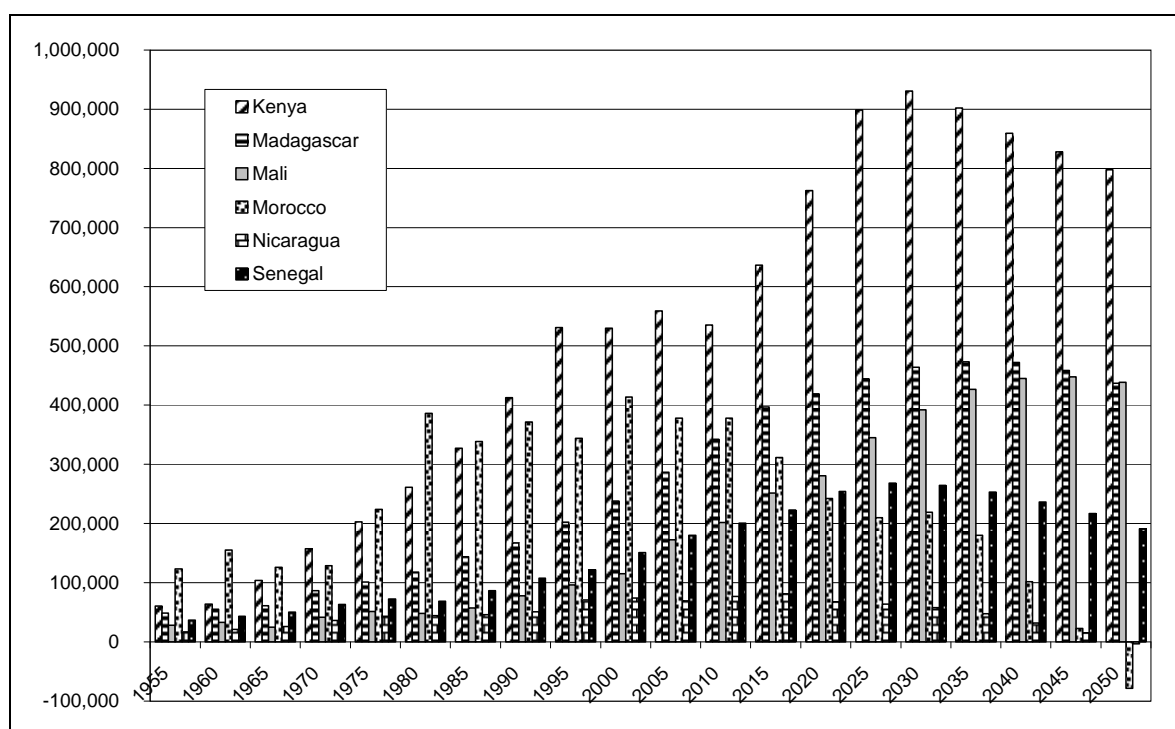
Source: World population prospects, 2006 revision.

All of these trends and figures are based on projections; as such, many commentators point to the fact that these previsions for the SSA population are unviable and are, consequently, impossible. However, it must be recalled that, contrary to economic forecasts, demographic forecasts are calculated using actual existing populations (which means that we know with certainty today the level of the labor force in 20 years), and that approximations simply reflect different hypotheses regarding birth and death trends, which are relatively stable. Significant variations are due to natural catastrophes, health hazards or are the consequences of political events (which could be the implicit issue for those who claim the unviable nature of the current trends). Nevertheless, birth rates can reflect and adapt more rapidly to the political and economic tensions. This is one of the explanations for the drop of the Nicaraguan trend in the 1990s. Similarly, the recurring stagnation of the rural economies and the lack of exit options at the national level are demonstrated by the remaining population trends in Senegal, Mali or in Madagascar.

3.2.1.2 The surge of the labor supply in SSA

Over the past decades, massive population growth has been responsible for a huge increase in the labor force, a trend that will become even more acute. Thus, the increasing labor supply is neither a new phenomenon nor one that will stop soon (Figure 4); it follows a long-term trend that will endure at least the next two decades in the four SSA countries, where the annual additional labor supply will probably increase until 2025 and even until 2045 in Mali (Table 6). In SSA, this increase could represent between two to three times the present annual increases in labor demands in each country. Conversely, in Mexico and Morocco, the youth entering the labor market annually should progressively decrease, as the peak of labor supply has passed. Nevertheless, this decline remains rather slow and must be compared with the limited capacity of each domestic economy to create jobs and, hence, to cope with these important flows (see below).

Figure 4: Annual additional labor supply in the RS countries, 1955-2050



Source: World population prospects, 2006 revision.

Table 6: Maximum annual labor supply in the RS countries, 1950-2050

Country	Additional labor supply in 2005	Peak of annual additional labor supply	Peak time
Kenya	558,800	930,600	2030
Madagascar	286,200	473,400	2035
Mali	171,800	447,800	2045
Mexico	922,600	1,368,600	2000
Morocco	377,800	413,600	2000
Nicaragua	69,000	81,000	2010
Senegal	179,800	268,200	2025

Source: World population prospects, 2006 revision.

Consequently, all of the RS countries are facing a huge socio-economic challenge in the expansion of their labor supply. What is at stake is the capacity of the domestic economy to absorb this growing labor force, i.e. its ability to achieve a sustainable growth that creates jobs.

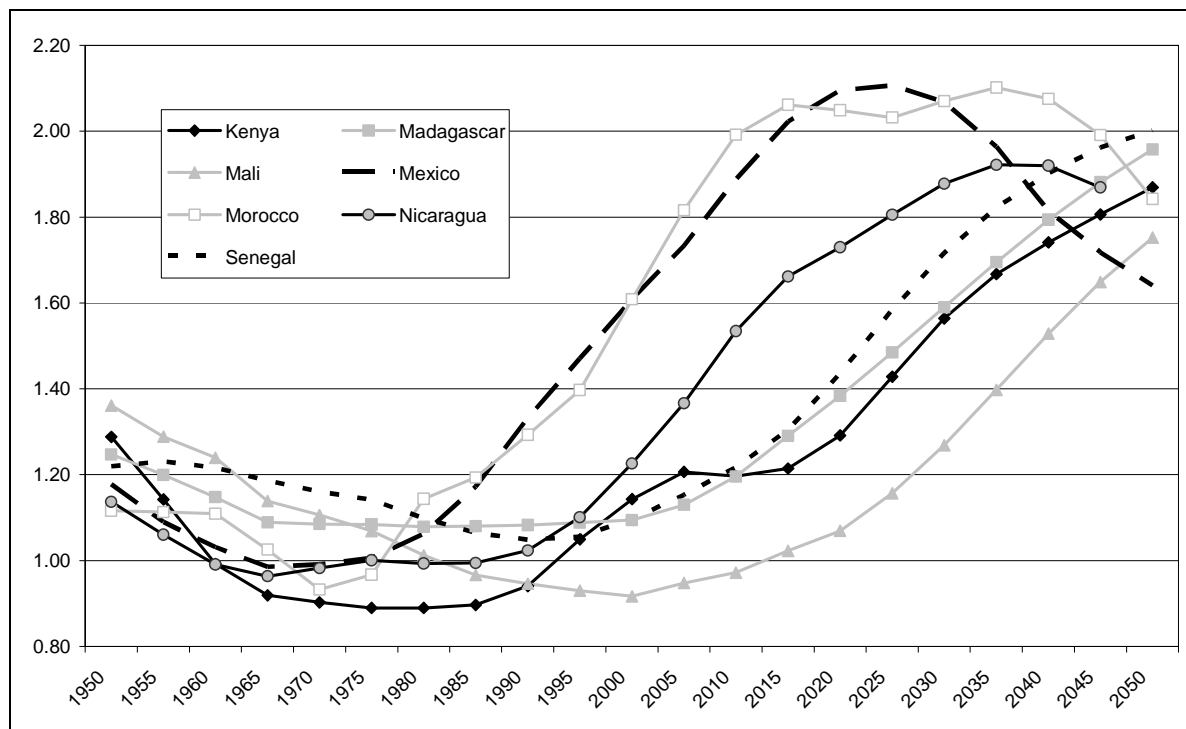
3.2.1.3 Implications of labor supply increase over time

Depending on the stage of the structural transformation an economy is experiencing (see § 2.1), the demographic transition and EAP increase can be a boost or a burden for economic growth. Figure 5 shows that the evolution of the ‘activity’ ratio has been on a downward slope since, at least, the 1950s, implying that there have been fewer and fewer economically active people to sustain the livelihood of the economically dependent

population. Mexico and Morocco recorded a reversal in the late 1960s and early 1970s. This reversal took place much later in the SSA countries, in the 1980s in Senegal and Kenya, and only in 2000 in Madagascar and Mali.

Since the 1950s, Sub-Saharan Africa countries have been bearing the burden of this economically dependent population and will continue to do so over the next two decades. The demographic dividend, which will progressively rise over the next three decades, could become a real opportunity if, in the meantime, the economic and institutional environment is reshaped to ensure that this momentum benefits the economy and fosters growth. However, the challenge is daunting: the very slow decrease of fertility compared to any other regions in the world – much slower than the drop of the mortality rate – raises questions about the SSA economies’ ability to create the needed jobs in order to absorb what will feasibly be a significant surge of their EAP.

Figure 5: Activity ratio in the RS countries, 1950-2050



Source: World population prospects, 2006 revision.

3.2.2 What do we know about labor markets and their current trends?

Understanding the on-going structural transformation processes in the RS program countries requires knowledge on how labor markets work, what their dynamics are, what the level of job creation in industry and services has been and could be, and whether it actually expresses the classical shift of the workforce away from agriculture. The major issue here is the scarcity or the actual lack of reliable historical data at country levels that

prevents the formation of definitive conclusions. We can only advance partial assumptions and these would require further investigation to be confirmed.

3.2.2.1 Agriculture as a major employment sector

As previously mentioned (§ 2.1), in the historical process, economies have progressively switched from agriculture to industry, then tertiary activities (services). However, slightly more than half of world's workforce, of whom 30% are women, is still engaged in agriculture, especially in DCs. Currently, there are nearly one billion self-employed and/or unpaid family workers in the world, most of them farmers in developing countries,²⁰ yet, knowledge about agricultural labor markets remains limited and poorly informed. Thus, questions concerned with the current state of the agricultural labor market and its evolution over the past decades are those we must address first. The main source of data for international comparison of employment in agriculture is FAOSTAT. Unfortunately, as previously seen (§ 3.1.2), these statistics often lack consistency, without which only a broad view on agricultural labor markets can be provided.

In all of the RS countries, since the beginning of the 1960s, the absolute number of both the AgEAP and the agricultural population has risen (Table 7). The magnitude of this EAP increase has been very important in Sub-Saharan RuralStruc countries, with an increase ranging from 114% in Mali to more than 232% in Kenya. In the meantime, the agricultural population has risen either at approximately the same pace (Kenya, Madagascar) or more rapidly (Mali, Senegal). The latter situation corresponds to an increase in the number of people supported by every agricultural economically active person.

In Mexico, Morocco and Nicaragua, the AgEAP has slightly increased (23 to 38%), and the agricultural population has stagnated or only slightly increased. Consequently, the number of people supported by an agricultural economically active person has declined.

Hence, the four Sub-Saharan Africa RS countries have followed a rather different path than the three others. Looking at the annual growth rate of the AgEAP allows us to understand the fundamental differences (Table 5). This growth rate has been positive and relatively stable around 2 % in Senegal, Mali and Madagascar. Conversely, in Mexico, Morocco and Nicaragua, this rate has followed a steady decline since the 1970s, falling below 1% during the 1980s. As previously discussed (§3.2.1.a), the Kenyan curve demonstrates a specific context: while the agricultural population initially increased at a higher rate than the AgEAP, growth rates for both currently show declining trends. The drop of the Nicaraguan rate shows the impact of the civil war during the 1980s (Figure 6).

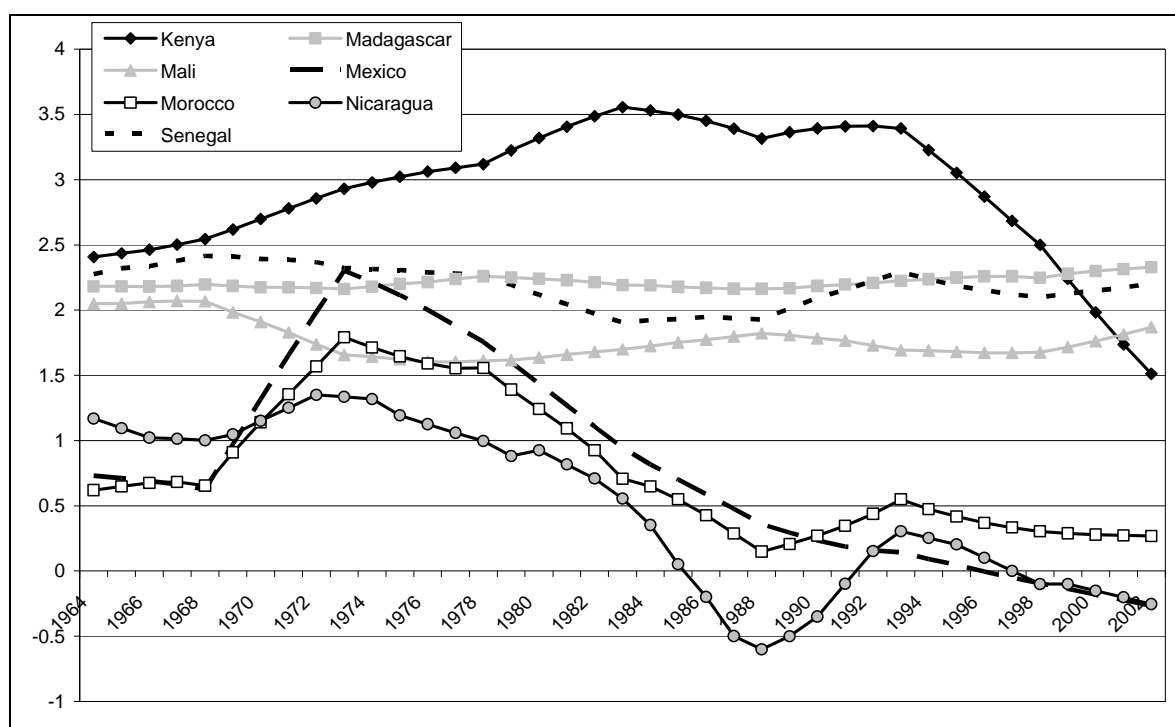
²⁰ Report of the International Commission on Peace and Food,
<http://icpd.org/UncommonOpp/CHAP04.htm>

Table 7: AgEAP and agricultural population in the RS countries, 1962 and 2004 (in thousands)

	AgEAP					Agricultural population				
	1962	2004	Difference	Variation	Annual Growth rate	1962	2004	Difference	Variation	Annual Growth rate
KEN	3,785	12,570	8,785	232%	3.0%	7,698	23,873	16,175	210%	2.8%
MAD	2,422	6,220	3,798	157%	2.3%	4,864	12,974	8,110	167%	2.4%
MALI	2,296	4,920	2,624	114%	1.9%	4,337	10,549	6,212	143%	2.2%
MEX	6,156	8,453	2,297	37%	0.8%	21,954	22,164	210	1%	0.0%
MOR	3,124	4,296	1,172	38%	0.8%	8,816	10,408	1,592	18%	0.4%
NIC	318	392	74	23%	0.5%	1,016	1,003	-13	-1%	0.0%
SEN	1,328	3,369	2,041	154%	2.3%	2,804	7,488	4,684	167%	2.4%

Source: FAOSTAT.

Figure 6: Growth rate of AgEAP in the RS countries, 1963-2002, 5 year moving average

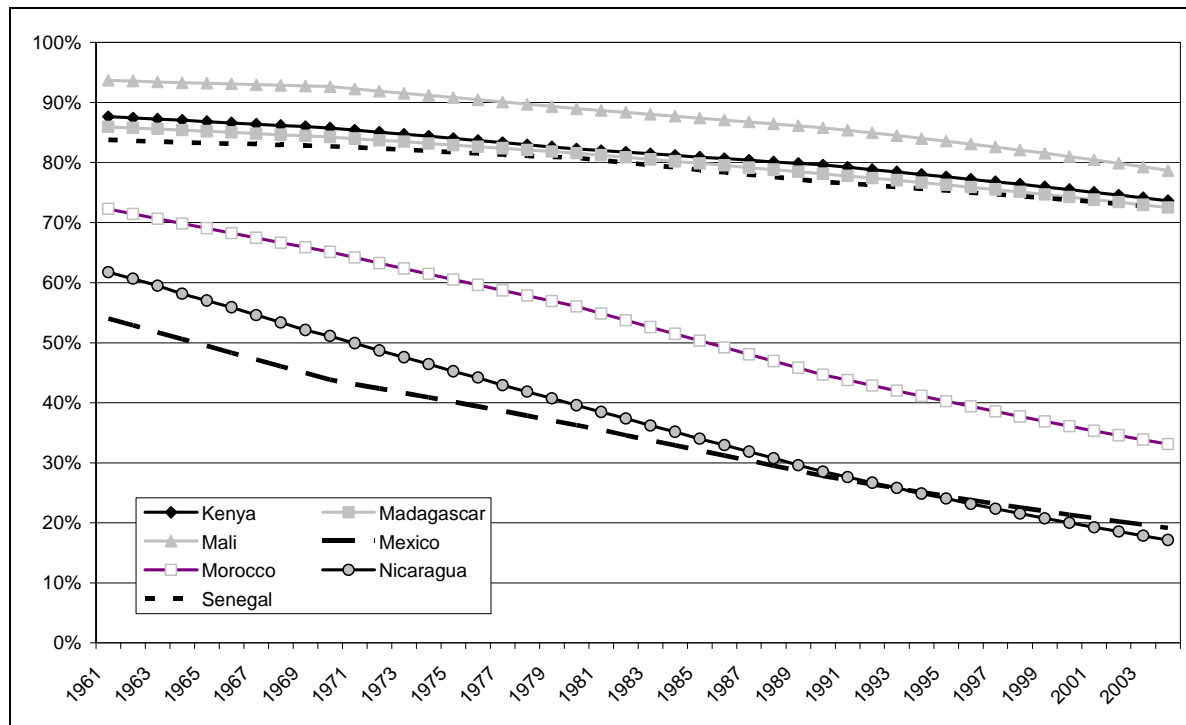


Source: FAOSTAT

Consequently, the share of the AgEAP in the total EAP has been declining in the three non-SSA countries to attain rather low levels: 30% in Morocco and even 20% in Mexico and Nicaragua. Once again, we have to be very cautious with these FAO figures. For instance, in Nicaragua, FAO data give a share of AgEAP below 20% in 2003 (Table 7) while the 2005 national census estimates this share at 40% (RS Nicaragua, p. 87). In Sub-Saharan Africa the share of the AgEAP has also declined, but more gradually, and, by consequence, has remained very high over the last four decades (Figure 7); this reflects the importance of agriculture as an employment provider for more than 70% of the EAP in the four SSA countries. While it would have been very useful to compare the evolution

of the share of the AgEAP in the total EAP and the evolution of the share of the agricultural population in the total population, quite surprisingly, the FAO data give exactly the same results for the two ratios over time for the seven RS countries.

Figure 7: Share of AgEAP in total EAP in the RS countries, 1961-2004



Source: FAOSTAT

3.2.2.2 A weak formal employment dynamic in other economic sectors

Economic transition should translate into the gradual shift of the workforce from agriculture towards industries and services, but in the RuralStruc countries this shift seems to be very slow. Indeed, opportunities to access formal employment, as in many of the least developed countries (ILO 2006), are very low: in Sub-Saharan Africa RS countries, only 7% to 20% of the annual additional labor force is able to find a formal job (Box 8 and Table 9); however, we must be very cautious with such figures. On the one hand, they could be underestimated, as only major sources of job creation have been taken into account due to a lack of national statistics. On the other hand, these figures mainly reflect the gross – and not the net – job creation statistics (i.e. these figures could be over estimated as long as in many RS countries, more jobs are suppressed than created). In any case, these levels are so low that, even with a large margin of error, the employment situation appears very unfavorable to job seekers.

In Morocco and Mexico, the formal sector provides job to 43-57% of the annual new EAP. Nevertheless, employment remains a significant challenge – until present, only annual job deficits seem to have been recorded.

Box 8: Formal job creation in the RS countries

Kenya: Following the elections in 2002, the new government promised the creation of 500,000 jobs annually. Between 2003 and 2004 an estimated 437,900 jobs were created with a mere 36,400 in the formal sector.

Madagascar: In 2004, salaried jobs were an exception rather than a rule in Madagascar, as only 13% of the Malagasy workers were salaried. This is due to the weak formal labor market in the country. While no data are available on the repartition of workers per economic sector, the number of jobs created by economic sectors known to be the most dynamic (tourism and the textile-garment industries), is very low: tourism is projected to create 12,000 jobs, and the textile garment industries, 30,000 jobs annually by 2013 (RS Madagascar, p. 154). However, using household surveys, Stifel (2007) provides a contrasted picture. They estimate that in Madagascar in 2004, the primary sector employed 80% of the working population, 97% of these workers engaged in agriculture, an increase of more than 6% compared to 2001. Agriculture generated more than 275,000 jobs every year between 2001 and 2004 (Table 8) when the industrial sector lost 70,000 jobs, mainly in textile and energy.

Mali: The capacity for formal job creation in Mali is very weak. Informal private enterprises provide the majority of employment opportunities with 80.3% of the created jobs. Employment in formal, private enterprises only accounts for 8.7% at the national level (13% for men and 2.7% for women). The public sector – public administration and enterprises combined – provides 4.6% of the jobs at the national level (RS Mali, p. 108).

Mexico: The construction industry followed by agrifood and garment industries have been the most dynamic sectors in the provision of formal jobs over the last years in rural Mexican areas. Construction and personal services require low skill levels and are low-paid. Thus, the majority remains employed in the informal sector, a trend that has amplified since 1995. Only 8% of the males and 12% of the females worked in the formal sector in 2003. In contrast, informal jobs accounted for about 65% of the working population in rural areas in 2003, compared to approximately 55% in 1995 (RS Mexico, p. 65).

Nicaragua: In Nicaragua, 63% of the employed population is part of the informal sector (RS Nicaragua, p. 75). Between 2000 and 2005, trade and other services (the sectors experiencing the most growth) generated 115,500 and 78,800 jobs respectively, i.e. an average of 32,000 jobs each year, while the number of young people seeking work totals 74,400 annually.

Senegal: Formal sector employment annual growth between 1995 and 2004 was 1.1%, only because of the expansion of the education and health sectors. Such a result is not due to the lack of growth of the formal sector itself (an annual growth rate of 4% between 1995 and 2004 equivalent to the informal sector), but to the structure of this growth, which is mainly based on capital investment rather than net job creation. Consequently, the formal sector contributed to 2.7% of the total job creation against 97.3% for the informal sector (World Bank 2007, p. 30-32).

Table 8: Annual net job creation and additional active population in Madagascar, 2001-2004.

		Annual Average
Job creation (2001-2005)	Primary	275,700
	Industry	-70,700
	Service	2,600
	Total	207,600
Additional EAP (2000-2005)		286,300
Gap		-78,700

Source: Stifel (2007) and United Nations, *World Population Prospect: The 2006 revision*.

Another issue refers to the cumulative employment gap over time. For as long as stocks – and not only flows – of people are considered, the employment pattern is worsening in all RS countries. A simple five-year projection based on the additional labor supply and the

level of formal job creation gives an estimate of the cumulated employment deficit (i.e. the stock of EAP that would not manage to find a formal job). Despite very different rates of formal job creation, Senegal, Mali and Morocco could have to cope with the same stock of people, around 800,000. In Madagascar, the gap could be huge – 1 million – while Kenya could face an even more critical situation. Even if these figures are very rough estimates, they express a quite disturbing lack of formal job creation.

Table 9: Projection of formal job creation and employment gap over a 5-year period in the RS countries

	Date or Time period	Formal job creation (annual average)	Additional labor supply (annual average)	Formal job creation / additional labor demand (%)	Projected formal job deficit after 5 years (stock)
Kenya	2004	36,400	558,800	7%	2,612,000
Madagascar	2007	42,000	251,600	17%	1,048,000
Mali	1999	39,500	201,600	20%	810,500
Mexico	1994-2003	217,000	377,800	57%	804,000
Morocco	2000-2005	32,000	74,400	43%	212,000
Nicaragua	2000-2006	20,000	179,800	11%	799,000

Source: RS country reports, World population prospects, 2006 revision, and authors' calculations.

As a consequence of the weak formal job creation, workers in developing countries tend to rely on self-employment or wage employment in the informal sector, in which there are three main options: agriculture, informal rural and informal urban. *“Excluding agriculture, there are about 104 million self-employed and unpaid family workers in developing countries, representing 37% of the non-agricultural workforce. Self-employed persons and the small firms that they establish have enormous potential for rapidly generating large numbers of new jobs and raising productivity to increase incomes, provided the right policy measures are in place to support them. [...] Indeed, appropriate policies focusing on access to technology, training, credit, marketing and distribution channels can substantially accelerate self-employment, particularly in the informal sector and rural areas”* (ICPF 2005, p. 79).

Despite having this high potential for job creation, the informal sector offers unequal opportunities to “pick up the slack” in terms of absorbing increases in EAP. As suggested by Ranis (2008), the informal sector can be divided in two sub-sectors. The first is a dynamic modernizing sub-sector, which frequently subcontracts to the formal sector, and appears to be very competitive and to offer great income opportunities; the second – a traditional ‘sponge-like’ sub-sector – emphasizes self-financed, under-capitalized, small-scale, unskilled-labor intensive production leading to low revenue, poor working conditions and low productivity (DIAL 2007, Pratap & Quintin 2006). What is at stake, then, is the relative size of these two informal sectors. Because the modernizing informal sub-sector is closely related to the dynamic of the formal sector, and since the formal sector is, as demonstrated here, weak and provides insufficient job opportunities, the informal ‘sponge-like’ sub-sector is much more likely to dominate.

Box 9: The informal sector in some RS countries

Kenya: Kenya's informal sector has developed since 1992 and has employed an estimated 6.12 million people directly and indirectly. This accounts for nearly a third of country's labor force. Most of the sector is rural-based, with trade, service provision and manufacturing as significant sub-sectors. The strong emergence of the informal sector is largely attributed to the liberalization of the communications sector and the cotton industry. The African Growth and Opportunity Act (AGOA), although attributed for the cotton industry losses, is also recognized as having created many jobs through sale of imported second hand clothes (RS Kenya, p. vi).

Morocco: Widely developed in trade and services but also in small-marketed production, the informal sector in Morocco is difficult to evaluate and, when attempts are made, the results vary considerably depending on the approaches and definitions. In any case, the last official investigation on the issue estimated that the informal sector in Morocco employed nearly 39% of non-agricultural workers in 1999-2000. Out of nearly 1.9 million people surveyed, 73% were located in urban areas and 27% in rural areas (RS Morocco, p. 7).

Nicaragua: The informal sector represents around 63% of total employed population. In 2005, only 51.2% of the employed population had a job year round, 13.2% had a partial job, 30% was under-employed (had a job for a week or two) and 5.6% was unemployed (RS Nicaragua, p. 88).

Senegal: The informal sector dominates the Senegalese economy in both rural and urban areas. Thus, 92% of jobs and self-employment have been generated by the informal sector (64% in the rural informal sector, and 28% in the urban informal sector). For example, the formal public and private sectors represent only 4% of jobs. In 2003, 277,200 Informal Production Units (IPU) were accounted for in the census in Dakar, the distribution was as follows: 31.1% in industry, 47.3% in commerce and 21.6% in services. The proportion of active women in the IPU is high (42.9%) such is the proportion of young people: 33.5% of the informal workers are younger than 26 years old. The level of education is also very low, averaging 2.8 years of education. Moreover, the average incomes are, of course, much lower than in the formal sector. As a consequence, people from disadvantaged backgrounds dominate the informal sector (RS Senegal, p. 34).

3.2.3 International migration

Beyond formal and informal in-country employment, international migration is an option for people seeking ways to sustain their livelihoods. As presented previously (§2.1.4), international migration was, in the past, a clear exit option for many European countries where, despite a strong process of industrialization, the job creation pace was far too low to cope with the rural depopulation. Today, international migration receives a growing attention on the international scene for another reason: their related remittances are rapidly growing and appear higher than all donors' contributions (Maimbo & Ratha 2005, World Bank 2006, Ratha & Shaw 2007). But the necessity to grasp migration as an exit option for part of the population of the developing world is not on the political agenda of the international community or, more particularly, of the developed countries, which are directly concerned.

In many RS countries, depending on their geography and national trajectories, international migration is also a core issue. Mexico, Morocco and Nicaragua have taken advantage of their geographic position, with (on average) 10% of their total population living abroad. This option is less possible in Sub-Saharan Africa countries except in Mali where about 11% of the Malian population live abroad, with migration flows oriented toward other West African countries (Table 10).

Table 10: Migrants and remittances in RS countries

	KEN	MAD	Mali	MEX	MOR	NIC	SEN
Stocks of emigrants in 2005 (Millions)	0.4	0.2	1.2	11.5	2.7	0.7	0.5
Population in 2005 (Millions)	33.4	17.0	11.4	104.3	29.9	5.6	11.7
Emigrants / Population	1.3%	0.9%	10.6%	11.0%	9.1%	12.2%	4.0%
Remittances in 2005 (Millions \$US)	494	16	175	21,802	4,724	600	511
Remittances (% GDP)	3.4%	0.4%	3.9%	3.5%	9.4%	13.3%	6.7%
Remittances (\$US / migrants)	1,156	106	144	1,895	1,738	878	1,103

Source: Ratha and Shaw 2007, WDI.

When OECD countries are the destination of migration, factors such as neighboring borders (Mexico and the US, Morocco and Southern Europe) or a former colonial relationship (France with Morocco, Senegal and Madagascar; the UK with Kenya) play a major role in migration patterns; conversely, when another developing country is the destination of migration, geographic proximity seems to be a major influence (Kenya and Tanzania; Mali and Côte d'Ivoire; Nicaragua and Costa Rica; Senegal to Gambia – a very unique case of migration). These patterns highlight the difficulty and costs of long distance migration.

One may suppose that a higher proportion of emigrants going to developed countries should equal higher remittances per migrant. This assumption, however, does not hold, as Madagascar records very low levels of remittances per migrant despite the majority of its migrants going to France. Nor does this assumption prove to be linear, as Kenya demonstrates with a larger proportion of migrants going to developed countries than Senegal but has a somewhat equal level of remittances per migrant. These gaps show that a deeper knowledge of the migration patterns is necessary to understand remittances' flows to developing countries. Furthering the argument against this assumption is Mali, a country that records the lowest flow of remittances by migrants while more than 10% of its population lives abroad. This could be explained by the fact that many Malian migrants are seasonal workers and, therefore, they return with the earnings, rather than sending them home (Shaw 2007). In Nicaragua, nearly half of the emigrants go to Costa Rica, a neighboring developing country, because the wage gap between Costa Rica and Nicaragua is high enough to generate migration and allow remittances to flow back to Nicaragua.

Table 11: Main destinations of emigrants from the RS countries (2005)

		Migrant's country of origin						
		KEN	MAD	MALI	MEX	MOR	NIC	SEN
To developed countries	Canada	5%	1%	1%		1%	1%	
	France		54%	4%		29%		20%
	Israel					8%		
	Italy		1%			11%	1%	15%
	Netherlands					6%		
	Réunion		17%					
	Spain			1%		25%	1%	5%
	United Kingdom	34%	1%			1%		
	United States	11%	1%		90%	2%	36%	3%
	Others	7%	3%	1%	2%	9%	1%	3%
Sub total	57%	78%	7%	92%	91%	40%	46%	
To developing countries	Burkina Faso			25%				
	Comoros		14%					
	Costa Rica						49%	
	Gambia			1%				27%
	Côte d'Ivoire			41%				
	Mauritania			1%				9%
	Nigeria			9%				1%
	Tanzania	26%						
	Uganda	8%						
	Others	9%	8%	16%	8%	9%	11%	18%
Sub total	43%	22%	93%	8%	9%	60%	54%	
Total	100%	100%	100%	100%	100%	100%	100%	

Source: Ratha and Shaw 2007, authors' calculations.

Therefore, it seems that only countries with both a large share of their migrants living in developed countries and a large segment of migrants relative to the size of their overall population record a significant contribution of remittances when compared to their GDP (Morocco, Nicaragua). One must stress that these data do not take into account the geographic distribution of emigrants within a country, leading to high emigrant concentration in some regions (e.g. Kayes region in Western Mali), hence influencing the potential impact of both emigration and remittances in these regions.

Bloom et al. (2001) indicate that as long as fertility remains high, SSA countries are unlikely to see rising incomes or healthier, better-educated workers and that in this context, international migration is a clear option. These authors even propose that migrant flows should be directed towards Europe, as the two regions are complementary opposites in their population structure. Simultaneously, Hatton and Williamson (2001) remind us that, while the two main driving forces of migration in the 19th century were real wage gaps between sending and receiving countries and demographic boom in low-wage sending countries, these two features are even more important in Africa today, and that the migration pressure will continue to increase. Thus, migration is likely an inevitable step towards developing countries of origin (De Haas 2006). This option could obviously decrease the pressure on labor market (Pritchett 2007) but the clear challenge

will be its scaling-up: to what extent could developed countries take in workers coming from developing countries with regards to their economic, political, social and cultural context?

Such a conclusion should encourage developed countries to rethink their migration policies; however no developed countries are currently looking at the migration issue through this lens. On contrary they prefer to develop new migration policies based on their own short-term needs (i.e. preference for skilled workers), rather than to grapple with the complex modifications of societies and economies that seem to be at the heart of the migration dynamics. Consequently, current migration policies could more likely harm Sub-Saharan Africa countries than bolster their economic growth (Landau & Vigneswaran 2007).

3.2.4 What prospects for the absorption capacity of agriculture?

Throughout history, and into the present, agriculture has been the major source of livelihood for the majority of people, particularly in Africa. As such, the crucial question about agriculture is its ability to remain a major source of activity and income in the context of a growing economically active population. We have seen in the previous sections that in Sub-Saharan Africa the huge increase of the EAP faces a weak formal employment dynamic, related to the difficulties of economic diversification, and that, if international migration is an option, it is also constrained by political issues. Notwithstanding possible opportunities for new activities, agriculture and informal sectors will continue to play their important role and, in this context, the question of the absorption capacity of agriculture appears to be particularly relevant.

However this question is notably sensitive and contains many traps because in DCs information on endowment and availability of production factors is often scarce, partial, and based on estimation at the national level. Also the possible answers to this sensitive question are clearly context-related and cannot be generalized. Indeed, global figures do not inform about the accessibility, the quality and/or the possible combination of each factor, which depend on their intrinsic local characteristics and also of the global economic and institutional environment. Global figures also mask the distribution effects among stakeholders and regions and their evolution.

The case of land is particularly illustrative of these difficulties for the analysis. The evolution of the quantity of agricultural land²¹ and its size by AgEAP is insufficient to

²¹ Agricultural land refers to: (a) arable land - land used for temporary crops (double-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years). Abandoned land resulting from shifting cultivation is not included in this category. Data for arable land are not meant to indicate the amount of land that is

understand the existing challenges. Further information is needed on: the soil's quality and fertility; land access and concentration of land, which refer to property rights, structure of ownership, all of these elements being part of the characterization of the agrarian system. Asymmetric agrarian structures, where smallholdings coexist with *latifundia* and large estates, do not provide the same room for maneuver as a more homogeneous structure of "small" farms ("small" is, of course, relative to the context). Each situation has its own constraints and opportunities, which directly affects the options for development. Similarly, if there is an absolute stock of agricultural land – defined by national borders or landscape – the available land is relative to the level of technology, the existing infrastructure, and the provision of public goods (water access and irrigation, roads, eradication of endemic diseases, etc.).

Discussion about the absorption capacity of agriculture, with reference to the employment challenge under constraint of limited alternatives, leads to an introduction of the ways to increase the agricultural activity and its outputs – the volume and value of agricultural products²² – which will sustain farmers' livelihood and allow income per capita improvements. Historically, two main strategies exist to increase production: adding new agricultural land, or intensifying production; often a combination of the two strategies is employed.

The conditions for intensification are a core issue among agricultural and development specialists. Since the pioneer work of Boserup (1965), intensification has generally been associated with the end of the "agricultural frontier" and the possibility of expanding the agricultural area, because in a pre-industrial economy (or in regions badly connected to markets) without modern inputs (industrial fertilizers, improved seeds, and motorization), extensive growth on new land gives access to new fertility stocks and provide a better output per working day. Further works have highlighted other powerful engines for intensification, mainly linked to the structural transformation process itself: industrialization (and the availability of industrial inputs), urbanization and growing and new demand for food. Authors such as Djurfeldt et al. (2005) also point out that the diffusion of technical innovations (typically the "Green Revolution package") relies on market forces and on specific public policies, which appear to be strong drivers of agricultural development, particularly when they rally private economic agents (which was the case of the Asian agriculture modernization).

potentially cultivable; (b) permanent crops - land cultivated with crops that occupy the land for long periods and do not need to be replanted after each harvest, such as cocoa, coffee and rubber; this category includes land under flowering shrubs, fruit trees, nut trees and vines, but excludes land under trees grown for wood or timber; and (c) permanent pastures - land used permanently (five years or more) for herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land). Source: FAOSTAT.

²² We could also add here the other services or amenities provided by agriculture like landscape and natural resources management; however these productions do not rely, so far, on markets in DCs and barely provide income. Carbon markets could be a development on this front.

The RuralStruc Program’s first phase national reports provided insights on this difficult question of the absorption capacity of agriculture, mainly focusing on expansion dynamics. As a background, we can recall the aggregated figures by using the FAO database which show a very slight extension of the agricultural land among the RS program countries over the last 40 years, the exceptions being Mexico, Nicaragua, Morocco, and Mali, where specific public interventions occurred (Table 12).

Table 12: Evolution of the agricultural land in the RS countries, 1963-2003

	KEN	MAD	MALI	MEX	MOR	NIC	SEN
Agricultural land, 1963 (Millions ha)	25.2	26.2	31.7	98.1	23.9	5.2	8.1
Agricultural land, 2003 (Millions ha)	26.5	27.6	34.7	107.3	30.4	7.0	8.2
Difference (Millions ha)	1.3	1.4	3.0	9.2	6.5	1.8	0.1
Variation	5%	5%	10%	9%	27%	34%	1%
Average annual growth rate	0.13%	0.13%	0.23%	0.22%	0.61%	0.74%	0.03%

Source: FAOSTAT

Although some RS country reports (especially Kenya and Madagascar) indicate possible room for maneuver to continue extending agricultural land while considering the many related challenges of such an option (access, existing property rights, development prerequisites), a common concern is the overexploitation of the resource that has occurred and that continues with the closure of the last frontiers. In many cases, marginal lands are being cultivated due to growing pressure on land, which becomes the scarce resource (Box 10).

Box 10: Extension of agricultural land and pace of land colonization in some RS countries

Madagascar: Land expansion occurs at the expense of forests with a decrease of approximately a third of primary forest in the last ten years (Zeller et al. 2001). This is mainly due to slash and burn practices for maize, cassava or potatoes on “*tanety*” areas. The expansion of agricultural land will now become more difficult because the Malagasy government decided to triple the protected areas in the next five years with the objective of strengthening the conservation of biodiversity: two thirds of the remaining natural forests of the country should be placed under formal protection (RS Madagascar, p. 130). The surfaces classified as “protected” currently represent 11.5% of the national territory.

Mali: In large part, production increase has been the result of extending agricultural land, which relies on farmers’ dynamics. This is particularly the case for cotton where incentive “controlled” prices are the main driver. This is also the case for cereals (mostly millet and sorghum), the development of which is driven by the strong demographic growth (RS Mali p. 82). Only rice followed a different path due to the development of a large irrigation scheme - the *Office du Niger* in the Niger River inland delta - initiated during the colonization era (RS Mali, p. 75).

Mexico: The expansion of agricultural land has been a long-stated target of public policy and heavily relied on two key interventions: land distribution (particularly through the opening of new agricultural frontiers), as part of the agrarian reform; and the irrigation policy, which incorporated major production areas in the North of the country that were strongly limited by insufficient rainfalls. However, the momentum driving the expansion of the agricultural frontier began to weaken, especially during the period 1983-1994 when the sector was in crisis. The expansion model is now approaching its limits; new rain-fed land is characterized by lower soil quality, hydraulic works necessary to increase the irrigated area are more and more difficult and costly while water resources are depleting (RS Mexico, p. 12).

Morocco: An ambitious irrigation policy was implemented in the country starting in the mid-1960s. This strong public intervention, named the “Policy of Dams”, allowed an increase of the irrigated area by 130% between 1967 and 1974, and 72% between 1974 and 1996. In 1996, 1.25 million ha were irrigated (RS Morocco, p. 33, 108).

Nicaragua: During the period between 1950 and 1975, the introduction of cotton production as well as the creation of a vegetable oil processing industry and industrial slaughterhouses in the Pacific region (where the land is the most fertile) provided a strong incentive for land concentration and infrastructure investments (paved roads, electricity, telephone, transport), which simultaneously fostered urban growth. At the same time, public policies encouraging the colonization of the country’s south-central area opened up an agricultural frontier to landless population, particularly those who had been pushed out from the Pacific region (RS Nicaragua, p. 16). The agricultural frontier was relatively stable in the 1980s because the civil war was concentrated in this region; subsequently, a new frontier was opened in the 1990s in the Caribbean region (RS Nicaragua, p. 45). Nicaragua developed a model based on land expansion because the resource was still available in the eastern region. It led, however, to the development of large – often under-used – farms, primarily based on livestock. The consequence is that the “last frontier” is now reaching the Caribbean coast and its swamp area, thus land pressure is definitely increasing (RS Nicaragua, p. 80).

In the context of growing pressure on resources, the increases in the demographic in rural areas and in the number of families relying on agriculture for their livelihood have directly impacted on the size of farms and the farm structure. Impacts of these trends include the simultaneous processes of segmentation due to the integration of the new generations and, sometimes, concentration when the head of household decides to exit agriculture (other activity options or aspirations, or a farm’s lack of viability).

Surprisingly, data on farm structures, which are central to the understanding of the processes underway and for public decisions, remain scarce and are constantly changing.²³ With the exception of Mexico and Morocco, where the structural transformation engaged (at different pace and with different levels of alternatives), the number of farms raised over the last decades in the other RS program countries. In the meanwhile, the average size of farms has decreased in general, except in Senegal²⁴ and in Morocco, Madagascar and Nicaragua showing the most dramatic evolution of this indicator (Table 13).

²³ This is notably true in Kenya and Mali. In Kenya, there is little information about farm numbers and average size. The main source available is the Welfare Monitoring Survey conducted in 1992, 1994 and 1997 with large variations in design and implementation. The 1994 survey is the only one with national coverage (Society for International Development 2006, and also Gautam 2000). Researches on land tenure indicate that farms sizes have sharply and prematurely declined since the 1960s (Haugerud 1989). Similarly, little is know in Mali about farm structures at the national level. However, case studies (Mariko et al. 1999; Kébé et al. 2003, 2005) show a general trend towards fragmentation of farm holdings with diminution of their average size in the Centre and in the South of the country (RS Mali, p. 76).

²⁴ In Senegal, one of the adjustments has been a progressive increase of the farm household size, both through an increase of the dependent household members (active and inactive) and an increase of the number of households within the same farm unit and sharing the main production factors. This process, related to the rural social structure in the Sahelian zone, also occurred in Mali where it was partly compensated by the access to new land resources (in the Niger delta and the cotton zone).

Table 13: Evolution of the number and the average size of farms in the RS countries

Country	Date	Number of farms	Variation	Average size of farms (ha)	Variation
Kenya (*)	1994	3,440,000	+	2.5	-
Madagascar	1985	1,459,435		1.2	
	2005	2,428,492	+66%	0.86	-28%
Mali (*)	2004	805,200	+	4.5	-
Mexico	1970	2,557,000		8.7	
	1990/91	3,823,000	+50%		
	2000	3,400,000	-11%	2.8 (ejidatarios) 13.8 (private producers)	
Morocco	1974	1,921,958		4.9	
	1996	1,496,349	-22%	6.1	+24%
Nicaragua	1963	102,201		-	
	1971	86,870	-15%	47.8	?
	2001	199,549	+130%	31.47	-34%
Senegal	1960	295,000		3.7	
	1998	437,037	+48%	4.3	+16%

Sources: RS country reports

(*) See footnote 23

Beyond these average figures, RS country reports insist on the fact that, especially in Latin America, but also in Morocco or Kenya, and due to the duality of the agrarian systems or preexisting inequality in land distribution, the demographic pressure has led to increase in the number of very small farms unable to provide livelihood for farmers and their families (Box 11).

Box 11: Farm structures in some RS countries

Mexico: The number of farmers increased from 2.6 to 3.8 million between 1970 and 1990/91, and then declined to 3.4 million in 2000. In the meantime, the average size of the farms (which was about 8.7 ha in 1970) had declined for the majority of the farmers (the *ejidatarios*), who were granted an average of 2.8 ha through land reform in 2000. Indeed, the persistent dualism of the Mexican agrarian structure has not changed much over the last decades. In 1990, farms less than 5 ha still represented 59% of the total number of farms and they covered less than 5.4% of the cultivated land; 84,853 farms – 2.1% of the total number of farms – had an average size exceeding 100 hectares and controlled more than 68% of the total cultivated land (RS Mexico, p. 108).

Morocco: The increase of agricultural area, coupled with the decline in the number of farms, led to a 24% increase in the average size of productive units from 4.9 ha to 6.1 ha from the mid-70s to the mid-90s. This trend did not include farms of more than 100 ha, whose average area declined by 15%. However, there are still great disparities in the distribution of land: farms of less than 3 ha account for 55% of the number of farms and cover 12% of the farm area, while those of more than 50 ha account for less than 1% of the total number of farms and cover more than 15% of the total area. Furthermore, agricultural land has been extended into forests, pastures and other marginal lands, thereby increasing the risks of soil exhaustion and overexploitation of resources (RS Morocco, p. xx, xxiv).

Nicaragua: Between 1971 and 2001, the number of farms increased by 130%, from 86,870 to 199,549 largely because of demographic pressure. In the meantime, because agricultural land expanded less rapidly, the average farm size has declined from 48 to 31 ha, a drop of 34%. From 1963 to 1971, 70% of the population accessed only to 10% of agricultural land. There were slow but significant changes in land distribution during the last four decades and land concentration was reduced: the 10% of farms which controlled 71% of the agricultural land in 1963, then 73% in 1971, owned 60% in 2001. However, despite the land reform efforts of the 1980s and early 1990s (which came to a halt), Nicaragua still has an unequal land distribution reducing small and medium farmers' access to land (RS Nicaragua, p. 86, 96).

Consequently, one of the main issues regarding the absorption of a growing AgEAP, particularly high in Sub-Saharan Africa, is the viability of farms, or their ability to sustain the livelihood of their members, which leads us back to the potential increase of agricultural outputs and to the core question of productivity of land and labor.

Productivity indicators (output per unit of land or per unit of labor, mainly the day of work) are another difficult issue. As a consequence of lack of information, ratios are often based on agricultural GDP per unit of land and labor, which is, of course, a very rough estimate because market prices variations, which are not directly related to technical innovations about farming practices (except those related to the quality of products), significantly impact the final result.

The common agreement about productivity is that there is a clear divide between countries where farmers are able to access and to adopt the Green Revolution package and mechanization, and countries where they are not. As clearly illustrated by Table 1 (in 2.1.1), the gaps between productive systems are huge and lead to very distinct worlds of production. The Green Revolution package was disseminated during the last four decades among the South, South-East, and East Asian countries, and also in many regions of Latin America (particularly Mexico which was a pioneer place for the experimentation and development of "modern intensification techniques"). Sub-Saharan Africa is clearly lagging due to a lack of infrastructure and subsequently higher prices of inputs, very diverse agroecology (the consequence of which is a wide range of crop varieties making their improvement more difficult), soil degradation, weakness of the research systems, and a lack of economic incentives, partly due to inappropriate public policies (World Bank 2007, p. 55). It is commonly accepted that the region made some progress in the 1960s but then suffered a regression in productivity during the 1970s and 1980s to only slightly recover and achieve a dull improvement at the end of the century, estimated at 0.8% per year, a number that cannot support the region's demographic growth (Lilyan et al. 2004).

The other agreement about productivity is that its progresses have been unevenly distributed. This situation is due to imperfect markets with difficulty of access (lack of infrastructure or lack of economic agents) and to differences of assets (financial, human, and social capital) between households; the consequence is an increasing asymmetry among farms leading to a clear differentiation process, which has been observed in various RuralStruc Program countries, notably in Mexico where the regional gaps are increasing between the irrigated regions and the large producers of the North-West and the Central and Southern regions, where smallholdings and indigenous producers dominate (RS Mexico, p. xv-xix). The case of maize production is particularly illustrative

of these gaps and shows a 30% yield increase in the North-West of Mexico when the rest of the country was stagnating (Léonard et al. 2006). Increasing disparities among producers linked to differences of assets and uneven access to markets or public support can contribute to progressive marginalization of the most vulnerable farmers (i.e. those coping with and recovering from the climatic or economic shocks and stresses with difficulty (Chambers 1989)) and to an increasing number of landless peasants (Rahman 2004).

These very mixed economic results, which constrain the ability of agriculture to answer the challenges related to demographic growth, are expressed by the stagnation – and sometimes the increase – of the rural poverty rate, which can be used as indicator of rural income, since no other data on rural and/or agricultural income at the country level are available. The RS country reports show deterioration (the worst situation is noted in Kenya) or a near stagnation of poverty (Table 14). Conversely, the slight decrease in Nicaragua and in Mexico is not only a result of improvement of the agricultural results but also the consequence of an accelerated diversification of activities and incomes, with remittances playing a major role.

Table 14: Evolution of rural poverty rate in the RS countries

	KEN	MAD	MALI	MEX (*)	MOR	NIC	SEN
Year 1	1992	1993	1994	1992	1985	1993	1994
Rural poverty rate	46%	75%	76%	35%	27%	76%	62%
Year 2	2000	2005	2001	2002	2001	2001	2001
Rural poverty rate	60%	74%	81%	34%	28%	67%	65%
Average annual growth rate of poverty	3.4%	-0.1%	1.0%	-0.3%	0.3%	-1.6%	0.7%

Source: RS Country Reports, 2007.

*For Mexico, the extreme rural poverty rate is used.

Finally, the ability of agriculture to cope with, and contribute to, the employment challenge will unequivocally depend on the progresses achieved by the different types of farmers. The evolution of their incomes relies on their own assets, as well as on their access to technical innovations and inputs through markets and possible support systems (technical advice, extension services) and provision of public goods. It also relies on the nature of the connection to markets the restructuring of which over the last decades leads to new opportunities, but also to new constraints.

3.3 Market restructuring and differentiation processes

What are the implications of agrifood market restructuring for the developing countries' farmers? No answer can be put forward without a clear understanding and evaluation of (i) the opportunities and challenges that this restructuring offers and the ability of the farmers to seize them (inclusion) or not (exclusion); and (ii) the actual proportion of farmers able to join these new markets and sustain their participation. This section describes these restructuring processes based on RuralStruc country examples, and then focuses on the limited knowledge available to allow an initial discussion of the on-going inclusion/exclusion processes in the RS program countries.

3.3.1 General background

There is an abundance of literature on the liberalization of agrifood markets. The main objective of this introduction is not to provide a deep review of this literature but to set the scene for the processes of change that started in the 1980s.

3.3.1.1 Context prior to liberalization

In all the RuralStruc countries, prior to liberalization, the agricultural markets were similarly characterized by an asymmetric dual system with strong state intervention. On the one hand, most staple domestic markets and commodity exports were controlled and highly regulated by states via marketing boards, state-run industries, administrative commodity pricing, and, often, fixed wholesale and retail prices for many basic food products. Most of the time, these public bodies were monopsonies, especially for major export products and sometimes for staples (with some cases of associated monopolies). These structures were initially created to i) promote sector growth, with agriculture being perceived as the first sector of accumulation; ii) stabilize producer prices (and incomes) within a single season and reduce variability between seasons, with the objective of reducing risks; iii) increase prices and improve incentives by reducing the number of intermediaries along the commodity chains; and iv) facilitate the insertion of exports into international markets through management of the national supply. On the other hand, few traditional non-staple markets (fresh products such as fruit and vegetables, dairy, etc.) were almost free, with little or no state intervention or price regulation. Spot transactions with many small, non-specialized and unorganized buyers and sellers characterized those markets, where few if any grades or standards existed, poor market information systems prevail and mostly informal contracts, largely enforced through social networks, were the norm (Fafchamps 2004).

Due to the weakness of the private sector, states also intervened in processing, mainly through parastatals (see Box 12), with key industries in the traditional export sector such as groundnut, palm oil, tea, coffee, cocoa, sugar, etc. Many of the industrial crops were produced by public vertically integrated firms aiming at economies of scale (processing,

transportation), and/or justified by the need for quick processing, in particular because of perishability and quality requirements of the products (palm nuts, tea, etc.).

Box 12: State intervention in some RS countries food markets prior to liberalization

Kenya: The *Kenya Tea Development Agency* (KTDA) was set up in 1964 by the Government of Kenya, the CDC, OPEC and the EEC. In two decades KTDA organized the planting of more than 57,000 ha of tea by 151,000 smallholders. Since its creation, KTDA has effectively controlled all levels of tea production from the quality of planting material through control over nurseries to the quality of production through selective registration, including the effectiveness of extension, the supervision of leaf quality, and, critically, through the exercise of a buying monopoly. The whole chain has been vertically integrated, as the crop must be produced relatively near the processing plant: even if the transportation costs are not as serious a problem for tea as for instance for sugarcane, the perishability of the crop requires geographically concentrated and coordinated delivery (Bauman 2000, Kinyili 2003).

Mali: The Malian agricultural economy was based on an administered system that lasted 25 years after Independence and was transformed very gradually. The state controlled main staples and export markets (cereals, cotton, etc.) through parastatals or semi-public companies, which intervened in marketing and, in some cases, in production, storage and distribution also. Through the *Office des Produits Agricoles du Mali* (OPAM), created in 1964, the Malian state controlled marketing structure of agricultural products – particularly for grains. OPAM had the monopoly of the collection of grains from producers at fixed prices and was then in charge of the distribution of cereals in the country (RS Mali, p. 51).

Mexico: Direct state intervention in agricultural markets was a major component of Mexico's development policy until the beginning of the 1990s. The state supported the commercialization and the storage of major products, creating state-run structures responsible for the supply of the domestic market in staples (dealing with local production and imports), and also for the supervision of exports such as coffee and tobacco. For instance, in 1958, the INMECAFE (*Instituto Mexicano del Café*) in charge of the promotion and the modernization of the coffee production (among other things) was created. The CEIMSA (*Compania Exportadora e Importadora Mexicana SA*) was created in the 1950s, replaced in the mid-1960 by the CONASUPO (*Compania Nacional de Subsistencias Populares*). These public institutions played a key role by supporting prices of staples for the producers, by processing, storing, and distributing the crops and by regulating trade through direct imports (RS Mexico, p. 24, Losch et al. 1997, Yunes Naude 2003).

3.3.1.2 *Withdrawal of the state and fading regulation*

In the 1980s and 1990s, market-oriented agricultural policy reforms were a centerpiece of liberalization in developing countries, within the context of structural adjustment programs designed to restore fiscal and current account balance, to reduce or eliminate price distortions, and to facilitate efficient price transmission, so as to stimulate investment and production (Barrett & Mutambatsere 2005). These reforms were justified by the fact that the original objectives of the state-run structures, such as marketing boards, development agencies and public enterprises, were most widely diverted, especially during the second half of 1970s agricultural price boom. These public structures, which had controlled marketing and regulated prices of agricultural products in most DCs, became the target of the liberalization process and the symbols of the state inefficiency. Thus, the first steps in reforming agricultural markets were the dismantling and the privatization of the state-run structures, and the reduction of tariffs and export taxes, consumer subsidies, and producer price controls. The following table (Table 15) presents some examples of the dismantling of former public bodies in the RS countries. These processes of restructuring all occurred over an extended period of time (from the end of the 1970s to the end of the 1990s). As discussed previously, depending on

countries' historical trajectories, the starting point, the scope, and the pace of liberalization were all country specific and explain large variations among countries.

Table 15: Scope of market reforms in RS countries

	Marketing at producer level BEFORE liberalization	AFTER liberalization
<p>Mali OPAM Office des Produits Agricoles du Mali</p> <p>Office du Niger</p> <p>CMDT Compagnie Malienne de Développement des Textiles</p>	<p><u>State marketing board</u> which had the monopoly of the commercialization of <u>grains</u></p> <p><u>Parastatal</u> which managed water, land and irrigation infrastructure, production, marketing, and processing of <u>rice</u></p> <p><u>Semi public company</u> (40% of the capital belong to the French DAGRIS) in charge of inputs supply, extension, marketing, and processing of <u>cotton</u> seed, supply of cotton fiber to the Malian public textile industry COMATEX and exports</p>	<p>1986: removal of the monopoly</p> <p>1989: liberalization of imports and commercialization of grains</p> <p>1994: objectives restricted to land management, infrastructures maintenance, and extension</p> <p>On-going liberalization since 2004</p>
<p>Senegal ONCAD Office national de commercialisation et d'assistance au développement SONACOS Société nationale de commercialisation des oléagineux du Sénégal</p>	<p><u>State marketing board</u> which had the monopoly of the commercialization of domestic agricultural products (<u>groundnut, grains</u>) and imports, and supervised the cooperatives of producers</p> <p>State-run processor for groundnut oil</p>	<p>1979: liquidation</p> <p>1991: liberalization of local market and imports of rice</p> <p>2006: privatization</p>
<p>Madagascar BCSR Bureau de Commercialisation et de Stabilisation du Riz</p> <p>HASYMA Hasy Malagasy</p>	<p><u>State marketing board</u> which had the monopoly of collect and commercialization of rice</p> <p><u>Semi public company</u> (36% of the capital belong to the French DAGRIS) which ensured collection and commercialization of cotton seed, and trade of cotton fiber to local textile industry and exports</p>	<p>1986: total removal of the monopoly of the commercialization of rice in domestic market</p> <p>1990: privatization of imports</p> <p>1991: removal of the buffer stock</p> <p>2005: removal of import taxes</p> <p>2004: privatization (90% of the capital bought by DAGRIS)</p>
<p>Kenya NCPB National Cereals and Produce Board Kenya Cooperative Creameries</p>	<p><u>State marketing board</u> that was charged with grain marketing controls in both internal and external level</p> <p><u>Dairy Board</u> which had the monopoly /monopsony power over the dairy industry</p>	<p>1991-95: privatization and liberalization of trade in both internal and external markets</p> <p>1992: liberalization of processing and commercialization of dairies</p>

<p>The Coffee board of Kenya The Tea Board of Kenya</p> <p>KTDA Kenya Tea Development Agency</p>	<p><u>State marketing board</u> in charge of collection, process and trade of coffee</p> <p><u>State marketing board</u> mandated to regulate the tea industry: growing, research, manufacture, trade and promotion on local and international markets</p> <p><u>Public development agency</u> responsible for the management of production through provision of inputs, extension, collection, processing and marketing of tea</p>	<p>2002: end of the coffee marketing board activities no change</p> <p>2000: privatization</p>
<p>Morocco ONICL Office National Interprofessionnel des Céréales et Légumineuses</p> <p>OCE Office de Commercialisation et d'Exportation</p>	<p><u>State marketing board</u> which fully controlled marketing of grains through fixed prices (especially wheat), and strictly controlled imports</p> <p><u>State marketing board</u> which had the monopoly of exports such as citrus, horticultural products, canned foods etc.</p>	<p>1996: liberalization of the grain market²⁵</p> <p>1985: removal of the monopoly and liberalization of exports</p>
<p>Nicaragua ENABAS Empresa Nacional de Alimentos Basicos</p>	<p><u>State marketing agency</u> which had the monopoly for the commercialization of staples and export crops such as peanuts, sesame and soy</p>	<p>1984: elimination of price differential for basic grains 1990: full liberalization of staples commercialization</p>
<p>Mexico CONASUPO Compania Nacional de Subsistencias Populares</p> <p>INMECAFE Instituto Mexicano del café</p>	<p><u>State-run enterprise</u> that had the monopoly for the supply of the domestic market in <u>staples</u> (marketing of national production and imports management), and supervision of <u>exports</u></p> <p><u>State marketing board</u> which supported farm production and handled processing and marketing of coffee</p>	<p>1989: removal of the marketing monopoly of national products and imports and limitation of its intervention to maize and beans 1993: dismantling of the board and liberalization</p>

Source: RS country reports

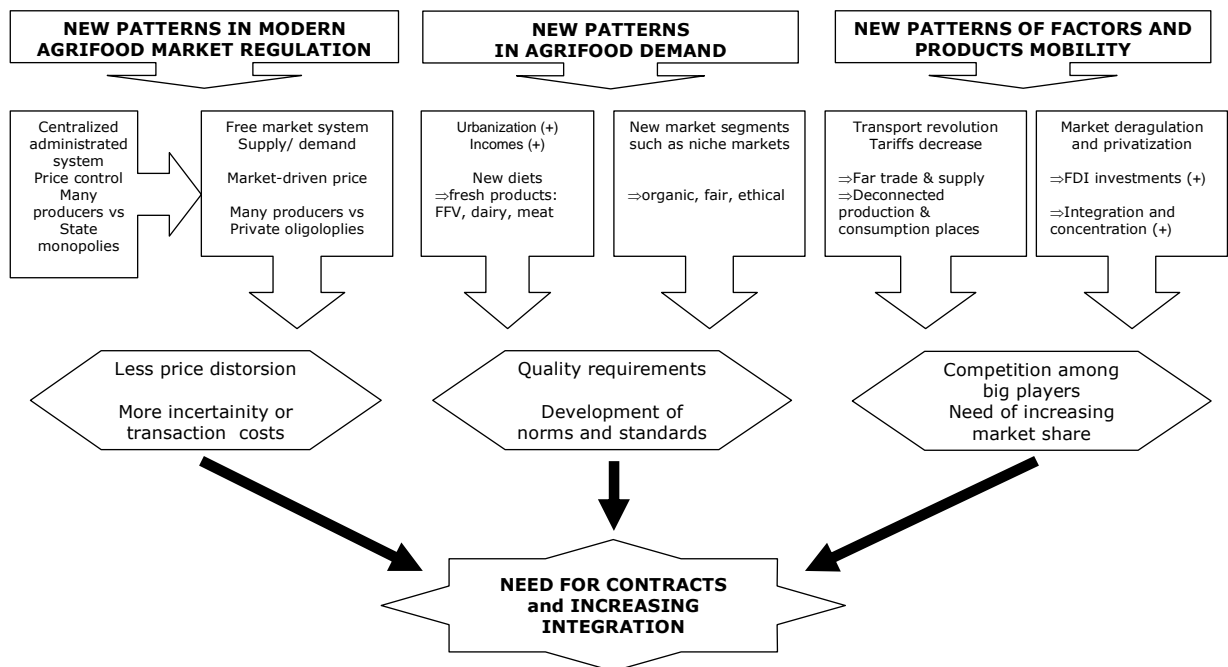
3.3.2 The restructuring of agrifood markets

State withdrawal from agricultural markets and the dismantling of parastatals and regulation systems have generated a new economic and institutional environment at the national level. However, this change has to be put in perspective with other major processes of restructuring within the international agrifood markets, briefly presented in

²⁵ In fact, this has been virtually the case for durum, barley and maize since 1988. However, there is still a quota of 1 million ton of subsidized flour.

§ 2.1.2. These processes are the result of new patterns in food demand and have been boosted by the increasing mobility of factors resulting from globalization (see Figure 8). The main consequence of this evolution, which started in the 1980s, is a trend towards an increasing integration process whose main attributes are development of standards, closer relations between producers and buyers, and the development of contractualization. This process is, of course, developing at very different paces among countries. The aim of the following section is to provide a framework of reference for understanding what is underway in the different countries under review.

Figure 8: New patterns and trends in the agrifood system resulting from liberalization and globalization



Source: authors, diverse inspiration

3.3.2.1 New patterns in agrifood markets regulation

The dismantling of the public regulation structures and of the centralized supply management systems had several consequences that can be summarized by two main features. First, value chains rapidly became market-driven and dependent on supply and demand variations. Many new private actors emerged but were often eliminated later because of intense competition. In many situations, one of the conditions for survival was increasing alliances with foreign capital. This phenomenon exacerbated an asymmetrical situation: whereas markets still incorporated many fragmented producers, larger but fewer marketing agents have progressively controlled the value chains. Second, due to the removal of administrated regulation and price management, uncertainty and transaction costs increased for those emerging private actors engaged in the new competitive environment. Faced with this context, the main trend among trade and processing companies was to implement strategies to secure their supplies through the

implementation of contract arrangements with producers. Some of them engaged in closer integration by buying local subsidiaries, organizing supply networks with specific support to producers, etc. At the same time, increasing competition over the international and national markets fostered processes of concentration, the result of which was the emergence of many “big players” that deeply transformed market dynamics.

Box 13: Newly emerging private actors and the implementation of contractualization in some RS countries

Kenya: Since liberalization of the dairy industry, the number of milk processors and mini dairies has rapidly declined in Kenya. Only four firms remain, all of which are private limited companies (*Brookside, Premier, Spin Knit* and *Meru Central dairies*). They are supplied by some vertically integrated cooperatives that have acquired processing equipment and cold storage (RS Kenya, p. 74-76).

Mexico: The liberalization of the fruits and vegetables chain in Mexico translated into growing production and productivity, and i) an increased concentration of large economic agents both in production and distribution; ii) a greater dependence of producers on credit allocated by large export firms; and iii) increasing control of the retailing sector over production with: large wholesalers controlling the main supply markets, and large supermarket chains controlling distribution. In staple chains, a concentration process has also been observed. With the dismantling of CONASUPO, markets for basic grains such as corn, wheat, rice, and soy have been progressively controlled by a few transnational enterprises – subsidiaries of U.S. companies – working on both sides of the border. For instance, CONASUPO's closure left Mexican maize producers in the hands of a very small number of large companies (the only buyers of their crops): *Maseca, Minsa*, and *Arancia*, in which *Cargill* and *Archer Daniels Midland* – the United States' main importers and exporters of maize – are directly engaged (*Cargill, Archer Daniels Midland*, and *Zen Noh* control 81% of corn exports in the United States) (RS Mexico, p. 112-113).

Morocco: The restructuring of the citrus export market, after the 1986 removal of the OCE monopoly, has left producers with choices to market their production through different channels. This led to the emergence of several private groups. Today, exports are the result of 12 groups of exporters who account for about 80% of exports. These groups are either private firms that produce and export, or cooperatives; nevertheless, they often complement their citrus production by buying “on the tree” from small producers. Meanwhile, in an effort to improve logistics, private exporters have grouped into the *Atlas Fruit Board* (AFB) (RS Morocco, p. 63, El Hadad 1995).

3.3.2.2 *New patterns of the food system*

In the meantime, the food system is evolving quickly, although the pace of change varies considerably from region to region. There are several major trends behind these changes: i) the world's population is becoming increasingly urban; ii) growing incomes result in quickly evolving diets with more proteins and high-valued foods (meat and dairy, fruits and vegetables) instead of staples; iii) until the current period of growing food prices, structurally decreasing prices have stimulated the agrifood market dynamics; and iv) an increasingly integrated world trade environment and improved transportation systems have spurred the convergence of dietary patterns and food preferences (FAO 2004).

As a consequence of these combining factors, consumer-driven value chains such as fruits, vegetables, meat, dairy products, fish and seafood products, have rapidly grown. Telecommunications allow long-range commerce, and changes in shipping and storage technologies in the mid-late 1980s allowed fresh produce (apples, strawberries and asparagus, for example), to be shipped from the southern hemisphere producers to northern hemisphere markets. This expanding demand and trade of perishable products and high-value foods brought about a need for more standards for food safety and animal

and plant health; this need is demonstrated by the growing attention on the risks associated with microbial pathogens, residues from pesticides, veterinary medicines or other agricultural inputs, for example. New international rules were introduced such as the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures that built on the Standards Code, and permitted measures that were “necessary to protect human, animal or plant life and health” (Agreement on the Application of Sanitary and Phytosanitary Measures 1994). The implementation of stricter food safety and quality standards has had strong impacts on the evolution of supply chains; in particular, exporters and retailers employ new forms of production and marketing contracts, while technical and/or financial assistance is often provided to strengthen these new networks.

In parallel, the shift of the market drivers from supply to demand, in a context of increasing incomes (at the aggregate level) has also transformed the focus and relationships among the commodity chain stakeholders. Today, more careful consumption has grown among consumers who are increasingly looking for safety and for information on the way products are grown and traded, to ensure socially fair and sustainable conditions. This growth in consumer awareness has progressively supported a range of new alternative initiatives in international, national, and local agrifood systems, and has fueled changes in retail patterns as fair trade, organic, and other “alternative foods”, which have entered the mainstream venues. With the emergence of these niche markets, new types of standards and specific controls have been extended, parallel to the implementation of certification structures. For instance, efforts are made to protect the integrity of organic standards to further differentiate organic foods by accurate labels and to promote different forms of short supply chains for local community development. Beyond these standards, the International Federation of Organic Agriculture Movements (IFOAM) has been created, basing certification on several issues such as the principles of health, ecology, fairness and the principle of precaution. As for fresh products, contractualization is growing between producers and exporters/retailers as the best means to guarantee standards and requirements.

Contracts, in their various forms and with varying degrees of obligations, usually reduce risks for the buyer and seller and have appeared in response to the removal of the formerly controlled marketing systems as a possible way to guarantee standards and requirements for the purchaser. For the producer, selling under contract arrangements is less risky when the requirements for the product are high and its characteristics are complex. Also, it is often the only way to access specific markets. For this reason, contracts have progressively spread to both emerging fresh product chains and niche markets, where product attributes are clearly defined in terms of norms and standards, and where the final value of production allows for the coverage of specific costs of contracts (selection, negotiation, monitoring, and enforcement). Contractual arrangements exist in all the RS program countries; however, contractualization mainly develops with high-value crops and tends to be more “informal” in other sectors.

Box 14: The development of value chains, standards, and contractualization in RS countries

Kenya: Horticultural products account for significant share in Kenyan agricultural exports and have recently surpassed coffee to become the second largest export of the country, after tea. The horticultural export market is served by a few large-scale company-owned farms, an increasing number of contracted commercial horticultural farms, and a declining – but still significant – number of contracted smallholder farms (RS Kenya, p. 84). Around 15-20,000 producers in total are involved in the Kenyan horticultural production under contract arrangements (Swinnen & Maertens 2006).

Madagascar: The development of the green beans chain in Madagascar is closely linked to one firm – LECOFRUIT (*Légumes, Condiments et Fruits de Madagascar*) – which operates through regular contracts with European supermarkets (*Leclerc, Intermarché, Auchan, Casino*). Malagasy green beans for export are mainly extra-fine, canned with the annotation "picked and placed by hand". Small-scale producers grow green beans under delivery contract with the company (approximately 10,000 farmers under contract adding up 500 ha in 2004/05). LECOFRUIT limits the area at 500 m² per farmer, provides seeds, fertilizers and pesticides, is committed in intensive monitoring and extension advice, and, finally, is in charge of the processing and packaging. A share of the production of green beans is outside the scope of the contracts and then sold by farmers on local markets via traditional marketing channels (RS Madagascar, p. 74-75).

Mexico: Fresh horticultural markets are important, dynamic components of the Mexican agricultural sector, and more than 2 million producers are involved in this production. The NAFTA, signed in the early 1990s, is often cited as the primary contributor to the recent growth in US imports of fresh vegetables (Malaga et al. 2001). Mexican horticultural exports to US increased from 61 to about 86% of the total agricultural exports earnings between 1991 and 2004, reinforcing Mexico as the first supplier of those products to the North American market (RS Mexico p. 54-55). Contract farming dominates the horticultural production and agro-industrial companies – such as *BirdsEye, Green Giant, Campbell's* or *Del Monte* – are the key actors for the integration of local farmers into national and world markets (Echanove & Steffen 2005).

Nicaragua: After hurricane Mitch devastated northern Nicaragua in 1998, the United States Agency for International Development (USAID) funded the Cooperative League of the United States of America (CLUUSA) to implement a series of economic reactivation programs. One of those focused on developing certified organic coffee production. Nine cooperatives (CECOCAFEN, PRODECOOP, PROCOSER, SOPPEXCA, La Gorrion, CORCOSAN, Solidaridad, and La Providencia) are involved in the program, with about 6,000 smallholders who developed certified organic coffee production under delivery contracts with the marketing cooperative prior to harvest time. At the same time, OXFAM started to promote alternative model of Fair Trade coffee production with about 2,000 producers under contract with CECOCAFEN. By 2005 Nicaragua's government started a new alternative way to trade coffee through Internet, with international tasters who guarantee high quality of gourmet coffee. This initiative, called "cup of coffee", brought high prices and recognition to Nicaraguan coffee and attracted important companies such as *Starbucks*, which currently not only buys coffee but also finances gourmet coffee producers. Since then, gourmet and alternative coffees represent about 20% of total exports of Nicaraguan coffee (RS Nicaragua, p. 110-114).

Senegal: The horticultural sector plays a major role in Senegal's recent strategy of export diversification towards high-value crops. The growing demand for these products increases the need for tighter coordination and leads to important structural changes within the horticultural export chain, with major implications for farmers including: increased consolidation at the agro-exporting industry level, as well as at the primary producers' level, and increased vertical coordination with downstream buyers in the EU as well as with upstream suppliers (Maertens et al. 2006; Maertens & Swinnen 2006). The need for regular supplies in quality and quantity generates the introduction of institutional arrangements based on contracts (inputs supply), certification (EUREPGAP, HACCP norms, matching the limit of pesticide residues), and a labeling system ("Origine Sénégal"). The implementation of these contracts facilitates the development of national exports (RS Senegal, p. 84-86).

3.3.2.3 *New patterns of factor mobility and trade, and rising new actors*

Since the 1980s, growing long-distance trade and increasing FDI have broadly modified the scope of agricultural production and marketing. They are the consequence of both a more open international economy resulting from economic liberalization and also of progress in technology (the Internet for finance and information on the software side; shipping, storage, processing on the hardware side). These factors all greatly increase the efficiency of international trade and domestic marketing, and have paved the way for major investments by new players everywhere, particularly in processing, and retailing since the 1990s (Barrett & Mutambatsere 2005). Consequently, a handful of vertically integrated transnational corporations have gained growing control over global trade, processing and retailing of food products. The tremendous development of these processes in the case of the distribution of products has resulted in the so-called “supermarket revolution” (Box 15).

Box 15: The world spread of the supermarket revolution

The penetration of modern food retailing varies among developing countries. Reardon and Timmer (2007, p. 2840) write: “*Experiencing supermarket-sector “takeoff” in developing countries in the early to mid 1990s, the first-wave include much of South America, East Asia outside China, and South Africa – a set of areas where the average share of supermarkets in food retail went from roughly only 10-20% circa 1990 to 50-60% on average by the early 2000s. The second-wave include parts of Southeast Asia, Central America and Mexico where the share went from circa 5-10% in 1990 to 30-50% by the early 2000s, with the take-off occurring in the mid to late 1990s. The third-wave include countries where the supermarket revolution take-off started only in the late 1990s or early 2000s, reaching about 10-20% of national food retail by circa 2003; they include some of Africa and some countries in Central and South America (such as Nicaragua, Peru and Bolivia), Southeast Asia, and China and India and Russia. Sub-Saharan Africa presents a very diverse picture, with only South Africa firmly in the first wave of supermarket penetration, but the rest either in the early phase of the “third wave” take-off of diffusion - or in what may be a pending – but not yet started – take-off of supermarket diffusion*”.

The differences between countries can be explained by socio-economic factors related to consumers’ demand for supermarket services, product diversity and quality. Among these factors one can cite as examples: income level and urbanization, correlated with the opportunity cost of time (in particular that of women), and reductions in transaction costs through improvements in roads and transport and ownership of refrigerators. These demand-side factors are necessary, but not sufficient, to explain the very rapid spread of supermarkets in the 1990s and 2000s in these countries, most of which had a very small supermarket sector before 1990. Supply-side factors were also of extreme importance, especially the influx of retail foreign investment as countries liberalized FDI, and improvements in procurement systems arose.

Box 16: The contrasted development of modern food retailing in RS countries

Kenya: Supermarkets in Kenya have grown from a tiny niche market only seven years ago to almost 20% of urban food retail today, and are rising quickly. In 2003, there were 225 large format stores in Kenya – 209 supermarkets and 16 hypermarkets. Before 1993, the main chains stuck to headquarter cities, until *Uchumi* broke this pattern in 1993 by building its first store outside Nairobi (in Nakuru) starting a national level competition that has built-in crescendo. Most notably, the rivalry between leading chains *Uchumi* and *Nakumatt* became an important growth driver; a new strategy by one chain forces imitation and/or a counter strategy by its competitor (Neven & Reardon 2004).

Madagascar: The network of supermarkets in Madagascar is currently made of three groups with foreign capital. The South African chain *Shoprite* settled in Madagascar in 1992, buying out shops of the French chain *Champion*, and has seven stores: five in Antananarivo, one in Antsirabe and one in Toamasina; the French chain *Leaderprice* has three stores in Antananarivo; and *Score* supermarkets from *Vindemia* Company, a subsidiary of the *Casino* Group, have three hypermarkets in Antananarivo and two supermarkets in the other provinces (RS Madagascar, p. 63).

Mexico: Important changes have occurred in food retailing in Mexico over the last five decades. The development of modern food retailing occurred in three stages. From 1946, date of the establishment of the first supermarket until 1980, the development of supermarkets focused on large cities in the north and the center of the country and were mainly based on domestic capital, although some chains were set up with US capital. In the 1980s, supermarkets began to move their initial basis into a few growing cities to create chains. This development was accompanied by intense competition, and several chains sought alliances with both domestic and foreign capital. From 1990, very rapid expansion occurred, impelled by the entry of giant chains from USA (*Wal-Mart*) and France (*Carrefour*) (Schwentenius & Gomez 2002).

Morocco: The Moroccan retail food sector has developed significantly over the past ten years. In 1991, the first supermarket was created by *Marjane*, one of five Moroccan-owned chains. With the exception of the cash & carry sector, the first foreign investment in large-format retail was made in 2001 by *Auchan* (France), which took control of 49% of the hypermarket chain *Marjane*, by entering a joint venture with ONA (*Omnium Nord Africain*), Morocco's largest consortium of private companies. In 2002, *Auchan* took control of *Acima*, a supermarket chain owned by ONA. The two other chains (*Label'Vie* and *Aswak Assalam*) are smaller and are owned by national investors (Codron et al. 2004).

Nicaragua: By the end of 1990, supermarkets began developing. Initially only Nicaraguan enterprises were involved. Then, in a second level of integration, Costa Rican enterprises established a competitive supermarket chain. At the same time, regional enterprises like *Hortifruti* were playing middlemen between supermarkets and producers. Finally, a third level of integration was established in the 2000s when *Wal-Mart* bought up regional supermarkets and intermediary companies such as *Pali*, *La Union*, *Paiz* and *Hortifruti*. Supermarkets in Nicaragua supply about 20% of the consumer demand for quality standards (RS Nicaragua, p. 58-60)

3.3.3 Segmentation and differentiation processes

The presentation of the restructuring of agrifood and agricultural markets, illustrated by examples arising from the RuralStruc Program countries, shows that several processes converge towards an increasing integration but at different paces depending on the regions.

The WDR08 argues that contractualization and development of agricultural entrepreneurship is one of the ways for smallholders in developing countries to escape from poverty (World Bank 2007, p. 127). Contractualization is seen as a tool for fostering smallholder participation in restructured markets, increasing and stabilizing smallholder incomes. Smallholders are considered to be very efficient producers in terms of labor intensity and labor-related transaction costs, but are constrained by capital and liquidity difficulties, and by a lack of access and/or capacity to adopt technological innovations. Indeed, contract farming with supermarkets or processors could help them overcome those constraints.

However, as previously shown (§3.3.2.b) and as reiterated by Reardon and Timmer (2007), contractualization implies increasing requirements in terms of norms and standards, sometimes including specifications on how the product should be grown,

harvested, transported, processed and stored. This trend presents an opportunity to reach lucrative new markets for the suppliers who are able to respond to the requirements, but it also presents a substantial risk of marginalization for those who are not. The consequence of this process is a progressive differentiation among producers, which tends to be exacerbated by the practices of major retailers or by the supermarkets' procurement systems. Indeed, as they try to facilitate the adoption of their specifications and to reduce their transaction costs, supermarkets and major retailers often chose to work with a reduced number of suppliers able to provide high volumes and high quality in due course. This pattern has been highlighted by some RuralStruc national reports (Box 17). It is also one of the main results of the recent *Regoverning Markets* research program (Box 18), which, based on many case studies around the world, shows that a main trend is an initial growth in the participation of smallholders in new modern value chains frequently followed by their progressive marginalization as larger producers enter the market and are able to provide more supply (Reardon & Huang 2008).

Box 17: High requirements and segmentation in some RS countries

Kenya: In a context where cut flowers production for export is concentrated in about two-dozen large-scale farms, which account for 75% of the Kenyan industry, small-scale farmers face an uncertain future because of declining demand for lower-quality flowers and increasing production and marketing costs. Their lack of access to adequate credit and inputs, logistical constraints, and environmental concerns exacerbate the trend (RS Kenya, p. 69). Furthermore, there is evidence that the challenges of complying with high standards and requirements have acted to exclude small-scale producers from export supply chains for high-value agricultural products. For example, while an estimated 14,500 small-scale producers were involved in the Kenyan export supply chain for fresh vegetables in the mid-1980s, accounting for 45% of exports, by 1998 the contribution of small-scale farming had declined to an estimated 18% (Jaffee 2003).

Nicaragua: The segmentation in Nicaraguan cheese markets corresponds to different quality standards. Cheeses for US and Mexican markets must meet several requirements: cows must be certificated as free of diseases; cows must be milked in a clean infrastructure with roof, water, and metallic containers; and processing plants have to be certificated by sanitarian and environmental Mexican and US authorities. In comparison, cheese for El Salvador has two quality segments: a similar standard as that of the US, and a lower standard. This low standard chain does not require any type of certification, and, therefore, is a low cost sector. Local markets have three main segments: supermarkets with quality standards, national and local markets without quality standards, and retailers who are small businesses mainly dedicated to low-income consumers. A single company does industrial cheese processing and three companies process dairy products, thus creating an oligopoly. Semi-industrial cheese processing is done by cooperatives and they are organized in a chamber of commerce and form another oligopoly. Commercial cheese channels are useful to show exclusion and integration of different social sectors and the vertical integration to an oligopoly, whose goal is to control Central American dairy markets (RS Nicaragua, p. 108-110).

This evolution could be decisive for the development of many value chains with a clear impact on farm structures. The core issue here is to identify how developed these processes of differentiation are, so as to be able to anticipate their impacts, both positive and negative. Nevertheless, it appears that these evolutions are badly informed. We know more about the characteristics of value chains integration and contractualization development, particularly thanks to the *Regoverning Markets* program, but we know little about the number of farmers engaged in these new chains.

Box 18: The Regoverning Markets Program

Regoverning Markets is a multi-partner collaborative research program (2005-2007) analyzing the growing concentration in the processing and retail sectors of national and regional agrifood systems and its impacts on rural livelihoods and communities in middle and low-income countries. The aim of the program was to provide strategic advice and guidance to the public sector, agrifood chain actors, civil society organizations and development agencies on approaches that can anticipate and manage the impacts of changes in local and regional markets.

Regoverning Markets focused on agrifood market restructuring in order to assess its impact on farmers and to see if farmers are able to integrate into the new restructured chains. To respond to this purpose, the program compared country/product pairs, each at different stages of restructuring, using farm household surveys and commodity chain analyses. Household surveys were conducted with a focus on the selected products among high-value chains, mainly fresh products such as fresh fruit and vegetables and dairy (Reardon & Huang 2008).

One of the main conclusions of the first phase of the RS program and its country overviews is that the integration and contractualization processes that result from the restructuring of agricultural markets remain limited and contrasted. They are mainly concentrated in these new high-value chains with specific development of horticulture in a broad sense (Senegal, Madagascar, Kenya, Mexico and Nicaragua), and with specific additional specialization in flowers (Kenya), dairy (Nicaragua) or fruits (Morocco). Opportunities in niche markets (organic, fair trade) exist, but they are limited, with only a small number of farms are involved in each country. Agribusiness can play a direct role in the organization of these new chains, as is the case for the dairy products in Nicaragua. Though this new integration pattern appears limited, it is significant to note that former modes of integration remain and primarily depend on the existence of monopsonies (cotton in Senegal, Mali, and Madagascar) or remaining price regulations (wheat in Morocco, peanut in Senegal, sugar in Morocco and Madagascar).

It is very difficult to estimate the number of farms engaged in these processes, due to the orientation of the statistical systems that focus on farm structures and not on integration in value chains (see supra § 3.1.2). This issue is also demonstrated by how little attention is devoted to these types of issues. By crossing the scattered information provided by the first phase reports and other very limited sources of information, we harvested only a few figures, which provide a partial overview of the processes underway. However, they also confirmed that these processes remain limited to few specific chains.

In Madagascar, about 10,000 green beans producers are under contract. In Kenya, only 15 to 20,000 producers (the figures are highly disputed) are involved in contract arrangements out of about 500,000 producers of horticulture products in the country (less than 4% of the horticultural producers). In Nicaragua, the integration process seems to be more developed: about 8,000 coffee producers are involved in the production of organic and fair trade coffee out of 43,200 coffee producers (about 19% of the Nicaraguan coffee producers are under contract), and about 6,400 farmers produce organic certified horticultural products (about 28% of the horticultural producers) (Table 16).

Table 16: Relative size of integration processes with contract agreements in the RS countries (*)

	KEN	MAD	MAL	MEX	MOR	NIC	SEN
Total # Farms	3,440,000	2,428,500	805,200	3,400,000	1,496,000	199,500	437,000
Organic coffee						6,000 14%	
Fair-trade coffee						2,000 5%	
Tea	154,800 64%						
Horticulture	15-20,000 <4%	10,000 21%		350,000		6,400 28%	
Peanut «arachide de bouche»							32,000
Dairy		330				4,450 5%	

Sources: RS country reports, bibliography and national census.

(*) Percentages give the size of the producers under contract on the total number of producers in the chain, when the data is available.

In the other countries, the information is non-existent or fragmented and refers to case studies. For example, in Senegal, the firm NOVASEN worked with 32,000 contracting farmers who produced approximately 40,000 tons of edible peanuts (*arachide de bouche*) annually (Warning & Key 2002). In Mexico, about 350,000 smallholders (*ejidatarios*) grew fruits and vegetables under contract arrangements in 1995 (Marsh & Runsten 1996). However, the aggregation of data at the national level remains virtually impossible.

While participation in the newly integrated value chains stays limited in all countries, the penetration of modern food retailing appears to be highly contrasted. Based on the updated data from the *Regoverning Markets* Program (Reardon & Huang 2008) and its classification related to the share of modern food retail versus total food retail, the RuralStruc countries cover the three stages:

- Advanced stage: Mexico (45%)
- Intermediate stage: Nicaragua (20%), Kenya (18%), Morocco (5-6%)
- Initial stage: Senegal, Madagascar, and Mali (<5%)

The gradient of penetration of the supermarkets in the food-retailing sector is broadly related to the average level of income per capita, which generally corresponds to more diversified and urbanized economies. This is relevant with the situation among the RS countries, with the initial stage corresponding to the lower income countries, Kenya being an exception at the Sub-Saharan Africa level.

Table 17: Modern food retail, urbanization and average incomes in the RS countries

	KEN	MAD	MAL	MEX	MOR	NIC	SEN
GDP per capita 2004 (US\$)	480	290	330	6, 930	1, 570	830	600
Urbanization in 2004 (%)	41	27	33	75	55	55	49
Modern food retail (%)	18	-	-	45	5-6	20	-

Sources: FAO ESSGA November 2006, RS reports, Regoverning Markets program

As the preceding sub-sections demonstrate, the restructuring processes of agrifood markets are still underway and their consequences on farmers are difficult to estimate. Only partial information coming from specific case studies gives clues about the opportunities it offers for developing country farmers. In Sub-Saharan Africa, the involvement of farmers in these new chains seems to remain rather limited: horizontal and vertical integration processes offer opportunities; however, although contract farming is reported in each RS country, only a limited share of the farmers are actually concerned. As a consequence, a vast majority of farmers does not participate in these restructuring processes and relies on the “old” productions (mainly staples and traditional export crops). What is the viability of such systems today with reference to the employment challenge and the increasing pressure on natural resources? At what pace will new distribution systems and the related contractualization develop? Moreover, in this evolving context, how many farmers could be entirely pushed out of agriculture, particularly in countries most engaged in the processes of integration? Better qualifying the magnitude of these inclusion and exclusion processes remains a main knowledge challenge.

3.4 Preliminary insights on the reshaping of rural economies

The configuration of the rural economies has broadly changed everywhere during the last three decades. As a consequence of the broader mobility of people and ideas, directly linked to technical progresses in transport and communication, the old urban-rural divide is fading and we need to rethink our vision of the main characteristics of rural economies.

One of the main expectations of the RuralStruc Program is to provide updated information on these processes reshaping rural economies, particularly on new and more complex systems of activities and incomes leading to livelihood diversification (Ellis 1998, Barrett & Reardon 2000). These evolutions progressively tend to replace the “old” production system where, historically, the core activities and income of rural households were principally drawn from agriculture.

Indeed, over the last decades, the concept of “household coping strategies” has been employed more widely.²⁶ Because of the importance of market imperfections and market failures, liberalization policies and globalization resulted in a plethora of changes for the rural households that often increased, rather than reduced, uncertainty. In many regions, particularly those less connected to markets, vulnerability and fragility have increased due to difficulties in marketing and supply, price instability, the removal of subsidies (particularly for inputs), the withdrawal of technical support, etc. Meanwhile, cutbacks in public funding for hospitals, schools and other social services, as well as consumer price inflation, have led to an increased need for accessible cash. As a consequence, an increasing number of rural households has engaged in a diversification process, looking for additional and more remunerative activities outside agriculture (Bryceson 1999), which was a condition for the sustainability of their livelihood. Technical progress in transportation and communication (particularly cell phones and cash transfer systems) facilitates livelihood diversification.

As such, for many households, farming is now one of several activities and income sources. This situation leads to two main trends in the literature characterized by the importance of case studies and the limited number of global approaches²⁷. The first refers to the diversification of income through rural non-farm activities; whereas the second deals with diversification of income with regards to the migration of rural household members to cities, other regions, or outside the home country, and the related impact of remittances on rural household livelihood. This diversification relies on multiple locations and connects members of the household working in different places (the market

²⁶ See Ellis (1998) for discussion on the different meanings of “coping strategies”.

²⁷ Among others we can cite: for general discussion Ellis (2000), Wiggins and Davis (2003), and Haggblade et al. (forthcoming); for regional approaches on Latin America Reardon et al. (2001), and Barrett et al. (2001, 2005) on Africa.

town, the regional city or the national capital, and sometimes, foreign locations). These new composite systems contribute to the emergence of archipelago models²⁸ that clearly redefine the country-to-city linkages.

Understanding this redefinition is hindered considerably by the significant data problems arising from the inadequate information systems referred to previously (§ 3.1); thus, unsurprisingly, while scoping the state of current knowledge on rural economies the first phase national reports have provided little information on this issue. The existing information is based mainly on case studies and all the national reports confirmed that “huge changes were occurring” pointing to diversification of activities as a main trend, with, for some countries, the growing impacts of remittances (mainly Mexico, Nicaragua, and Morocco). As a result, little systematic information was provided and what we propose here is to set the scene by presenting some insight on the existing debate.

In recent years, there has been increasing emphasis in the rural development literature on livelihood diversification, i.e. the multiple income-generating activities undertaken by rural households. Barrett and Reardon say: “*Diversification is the norm. Very few people collect all their income from any one source, hold all their wealth in the form of any single asset, or use their assets in just one activity*”. They remind that: “*There are several reasons for this: risk reduction, realization of economies of scope, diminishing returns to factor use in any given application, response to crisis, liquidity constraints, etc. At the more aggregate level of households or communities or regions, scarcity of productive resources and specialization according to comparative advantage accorded by superior technologies or skills or by greater endowments leads to considerable inter-individual diversity in activities and incomes. So no matter the unit of analysis, diversification is ubiquitous. This is especially true in rural areas of low-income countries, where high transactions costs induce many residents to self-provision in several goods and services, where increasing population pressures often result in landholdings too small to absorb all of a household’s labor supply, and where limited risk-bearing capacity and weak financial institutions create strong incentives to select a portfolio of activities in order to stabilize income flows so as to stabilize consumption and minimize the risk of entitlements failure*” (Barrett & Reardon 2000, p. 1-2).

The discussion on diversification of income sources and activities is sometimes difficult because there are no static categories of income sources and activities in the literature; thus, it remains useful to clarify the picture. Following Davis et al. (2007), rural activities can be divided into six categories: (i) crop production, (ii) livestock production, (iii) agricultural wage employment, (iv) non-agricultural wage employment, (v) non-agricultural self-employment, and (vi) transfers (private and public). The first three categories (crop, livestock and agricultural wage) make up “agricultural activities”, while

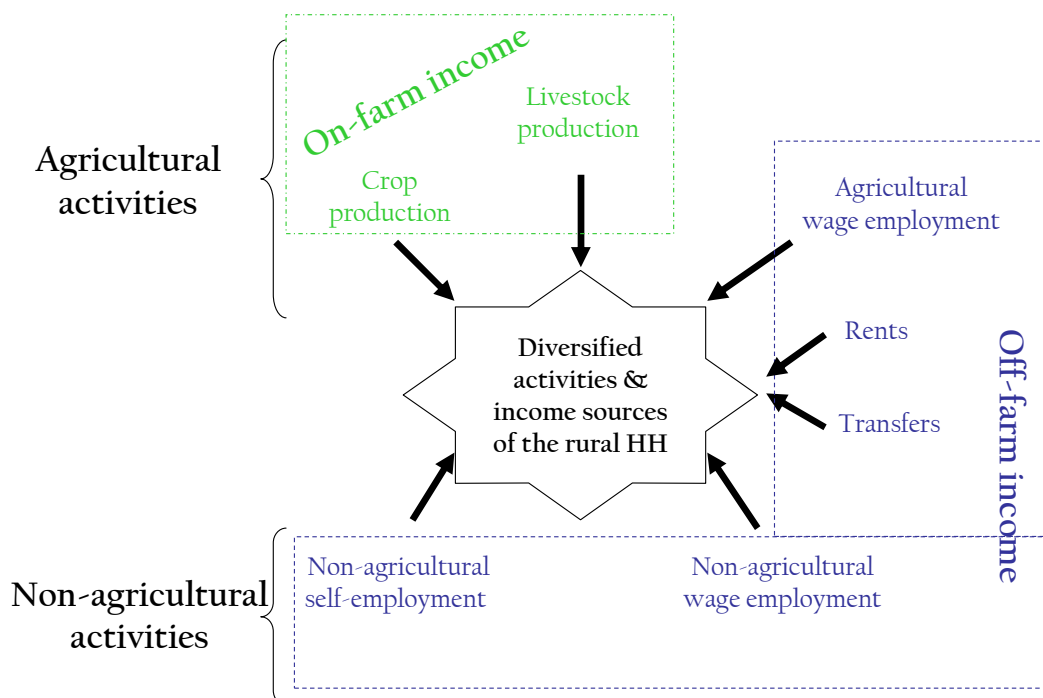
²⁸ On these new configurations, see for example, among others: Gastellu and Marchal (1997); Léonard et al. (2004).

the last three (non-agricultural wage, non-agriculture self employment, transfers) represent “non-agricultural activities”. The first two categories (crop and livestock) are “on-farm activities”, and categories four and five (non-agricultural wage and self employment) are “non-farm activities”. Agricultural wage employment and transfers are separate categories. The concept of “off farm activities”, includes all “non-agricultural activities” plus “agricultural wage labor” (Barrett & Reardon 2000; Winters et al. 2001; Davis et al. 2007).

As with every classification, the latter proposal is disputable and it is possible to continue feeding the debate on definitions and concept shapes interminably. For instance one could argue that (i) transfers are not an activity but an income and can foster activities or increase consumption or savings; (ii) private transfers can also result from agricultural activities or agricultural wages; (iii) agricultural activities cannot be restricted to crops and livestock but must also include raw products transformation (added-value at the farm level); or (iv) occasional hunting, fishing and gathering are not agricultural activities but rural practices based on the utilization of natural resources, and so on.

For the purposes of this research the following figure (Figure 9), adapted from Davis et al. (2007), is proposed. It puts forward the perspective of the household rather than that of the activity because the RS program’s purpose is to facilitate the identification of activity and income systems, which express the complex livelihood strategies adopted by rural households, which aligns with RuralStruc’s objectives.

Figure 9: Diversification of activities and income sources of the rural households in developing countries



Sources: authors, adapted from Davis et al., 2007

During the last years, the need to understand the processes of change and the development of rural diversification has led to an effort of systematization of the available information with the objective of providing a new vision of rural realities.

This effort translated in initiatives such as the RIGA (Rural Income Generating Activities) project, a joint initiative of the World Bank and the FAO, which aimed at helping the development community to build rigorous and empirically based generalizations about the Rural Non-Farm (RNF) economy and to identify policy instruments that could be used to promote RNF activities alongside agriculture to facilitate rural poverty alleviation.

Box 19: The Rural Income Generating Activities (RIGA) project

The RIGA project analyzes sources of rural household income in 15 countries from 23 household surveys: Ghana 1992 & 1998; Madagascar 1993-94; Malawi 2004-05; Nigeria 2004; Bangladesh 2000; Indonesia 1992 & 2000; Nepal 1995-96; Pakistan 1991 & 2001; Vietnam 1992-93 & 1997-98; Albania 2002 & 2005; Bulgaria 1995 & 2001; Ecuador 1995 & 1998; Guatemala 2000; Nicaragua 2001; Panama 1997 & 2003.

RIGA uses a database constructed from a pool of Living Standards Measurement Study (LSMS) and other multi-purpose household surveys made available by the World Bank and the FAO. From this pool of existing data, a panel of countries is selected with the objective to ensure geographic coverage across four main developing regions – Asia, Africa, Eastern Europe and Latin America –, as well as adequate quality and sufficient comparability in codification and nomenclatures. Furthermore, an effort is made to include a number of low-income countries as these represent the highest levels of poverty and are, therefore, of particular interest to illustrate and understand the ways rural households cope with poverty. The specific objective of this work is (i) to conduct a systematic analysis of income-generating activities in rural areas of the selected countries; (ii) to identify the relative importance of different activities; and (iii) to analyze the determinants of participation and intensity of involvement.

To this end, basic analysis is conducted to (i) evaluate the participation in and income received from RIGAs, (ii) analyze the role of household assets in participation in each activity, (iii) analyze the role of household assets in the income received from each activity, and (iv) disaggregate rural non-farm activities by industry.

Indeed, a major component of the RIGA project is to construct comparable income measures. The aim of the exercise is to provide annualized benchmark aggregates spanning four continents, which, despite pervasive differences in the quality and level of information available in each survey, is suitable for cross-country analysis. Although consumption-based money metric measures are more commonly used in welfare analysis because they are considered to be more accurate and easier to measure in a typical household survey, the RIGA study uses income-based measures and their components, whose definitions closely follow those given by the International Labour Organization (ILO).

Some of the results of the RIGA project are that schooling is an important determinant for participation in many activities, but that its magnitude and sign vary with respect to Rural Non-Farm wage employment, agricultural wage and RNF self-employment. As a consequence, this study puts forward that schooling leads to a shift to RNF wage employment and, thus, higher income. This work also underlines that services are the most important RNF wage employment activity followed by manufacturing, construction and commerce, the latter being the most important RNF self-employment activity.

Source: Carletto et al. 2007

Even though the RIGA results are based on largely heterogeneous data (particularly in years during which a national survey was conducted), the RIGA project remains quite unique. It was used broadly by the WDR08 and directly participated in the development of one of the core issues of the report: the role of the diversification of rural activities and sources of income as a way out of poverty: “*Many rural households move out of poverty*

through agricultural entrepreneurship; others through the rural labor market and the rural non-farm economy; and others by migrating to towns, cities, or other countries. The three pathways are complementary: non-farm incomes can enhance the potential of farming as a pathway out of poverty, and agriculture can facilitate the labor and migration pathways” (World Bank 2007, p.72).

As explained above, diversification of rural activities and sources of income does not necessarily mean complete abandonment of on-farm crop and livestock activities, as most rural households in all countries maintain on-farm activities despite participation in other off-farm activities. Indeed, the evolution of the agricultural sector has led many rural households to develop new strategies based on different income generating activities, which allow adaptation and risk management in an uncertain and changing environment. As a consequence, available land, labor and capital can be reallocated to more certain and sustainable activities – when alternatives exist. Thus, the core issue remains that of existing diversification alternatives and the potential of each to provide a pathway out of rural poverty. Furthermore, the discussion remains rather elusive on the “quality” or the concrete content of these alternatives, i.e. do they allow rural households to actually increase their level of living and accumulate assets, or do they merely contribute to their survival? In other words, to what extent these diversification strategies could actually participate in the structural transformation process of developing countries?

4 Conclusion: Where do we stand so far?

All developing world economies are engaged in major processes of structural transformation, whose common pattern reveals a progressive shift from agriculture to industry and services, towards urbanization. However, each country follows its own path of economic transition, strongly influenced by the historical conditions of its emergence and integration within the world economy.

In an increasingly urbanized world, agriculture still provides a living to 2.6 billion people (41% of the world population), 97% being in developing countries. The agricultural sector and, more generally, rural economies are directly participating in these processes of change exacerbated by the broad restructuring driven by globalization. Greater market connections, new players and new rules of the game lead to confrontation between diverse agricultural systems that fundamentally differ in terms of assets, productivity, and economic and institutional environments.

Confrontation between these types of agriculture is a main issue. For many countries, particularly “agriculture-based countries”, the current period corresponds to a unique moment in world history where they have to deal with the early stages of their economic transition and, at the same time, with the competition related to globalization. Their challenge is reinforced by another commanding transition – the demographic transition, which puts significant additional pressure on economic growth and employment creation. Due to their demographic structure, several regions of the developing world – particularly Sub-Saharan Africa and South Asia - will face a huge increase of their labor force over the next three decades. This “demographic dividend” presents two possible scenarios: on the one hand, it could be a major opportunity for growth, as long as its drivers are strong enough to provide massive increases in productive jobs; on the other hand, it could be a major burden on the economy, if growth is lagging, generating exceptional economic, social and political tensions.

In this quickly evolving context, the rural economies of developing countries are engaged in a deep reshaping process. Depending on rural economies’ connections to markets, globalization creates new opportunities and also new constraints. At the same time, technical revolutions in communication and transport have changed the lines of spatial organization and have faded the old rural-urban divide. They offer new options to rural households, which can now design new composite systems of activities and incomes for sustaining their livelihood. However, little is known about these processes, although their understanding is a crucial for policy design: How do rural households cope with these changes? What is the impact of the restructuring processes in agriculture? How do rural dwellers manage to grab the opportunities and deal with the constraints of an increasingly open global economy? How many are able to overcome these challenges?

Many case studies from around the world and targeted research programs provide useful information about these on-going developments and their new features. Nevertheless, it appears that while we certainly need to know more about the processes underway, it is important to put them into perspective with the global dimension of structural

transformation, in terms of how these changes within agriculture and rural economies align with the global economic structure of the developing countries and how economic transition occur. What is the number of people involved in these processes and the number of farmers that will leave agriculture? And what are the existing alternatives in terms of activity or employment in the rural economy, in cities, abroad?

The discussion about the exit options from agriculture echoes one of the major issues of the last World Development Report (World Bank 2007). Even if its main focus is the role of agriculture in poverty alleviation, the WDR08 provides a powerful vision of what it calls the three possible pathways out of rural poverty: specialization in agriculture, the development of rural diversification, and migration to cities or abroad. However, the decisive question is the viability of each pathway and its implications, especially in countries where 65% of the labor force is still engaged in agriculture. What is the share of the current agricultural population that could engage in each pathway: 30-40-30%? Or, perhaps, 20-20-60%? These “big numbers” must be discussed, because they relate to what is often missed in the current debates: the challenge of economic and demographic transition within globalization.

Due to the conditions of the first phase of the RuralStruc Program, the national reports did not elaborate much on the existing alternatives. The on-going second phase of the program will provide a better understanding of the processes underway. Nevertheless, we can draw several conclusions from this first phase which main results have been previously developed.

First, in the SSA countries of the RS program, agriculture remains the major sector absorbing the growing labor force, which is related to their on-going demographic transition. These countries face a process of urbanization marked by limited – if any – industrialization and few formal employment opportunities. This type of urbanization relies heavily on the development of a “sponge-like” informal sector characterized by vulnerability, low paid jobs, poor labor conditions and low productivity. As a consequence, the evolution of the agricultural sector is decisive for the structural transformation of the SSA economies. In the non-SSA countries of the program, agriculture clearly plays a different role: in spite of major differences, their economic transition is well underway and the diversification of the overall economy fosters more employment alternatives. However, a common feature is the huge role played by international migration, which appears as a powerful exit option: around 10% of the population lives abroad and a significant flow of remittances contributes to the coping strategies of rural families.

Second, the global agrifood market restructuring and the development of the integration processes do not affect agriculture and rural economies in the same way. Very little information is available on the extent of farmers’ inclusion in the new markets (particularly high value chains): we know more about the processes than about the numbers of farmers involved. This is a real issue when discussing policy options. However, we can say that, in SSA, based on the RuralStruc countries’ first phase results and on the existing literature, these new markets account for only a few hundred thousand producers, while what is at stake is the future of tens of millions of small farmers. In the

other RS countries, some integrated value chains are more developed but the global process remains limited and contributes to the differentiation among producers: new patterns of supply and marketing are inherently biased in favor of larger specialized farmers because small producers cannot afford to invest to meet the high requirements that define new markets.

Based on these preliminary results we can put forward several first lessons which can contribute to the policy debate.

1. *Agriculture is not an island* but a sector that is embedded within the overall economy and society, and the discussion concerning its future must imperatively be put in perspective with the process of economic transition. For the “agriculture-based countries”, structural transformation is particularly challenging because they must simultaneously face the opportunities and constraints of both globalization and demographic transition. As a consequence, policy options must be articulated within development strategies. Stand-alone policies cannot be sufficient to deal with the imperatives of structural transformation which request a careful design and sequencing of the goals, objectives and means of action that form the core of a strategy of development. Agricultural policies cannot be disconnected from other central issues like employment, urban growth management, or the development of infant industries. As reminded by Stiglitz (1998), a development strategy is a public good, like the rule of law, because it expresses an agreement between the different stakeholders in the processes of economic and social development. Because they are unique and depend on a country’s specific characteristics, development strategies cannot adopt “one size fits all” solutions and require the implementation of carefully tailor-made policies. As Hausman and Rodrick (2003) point out, a country has to identify its best options for development, build its comparative advantage, and government has to find efficient policies to promote a self-discovery process. In this perspective, global policy design must be fully assumed by governments and supported by the donor community. The alignment of agricultural policies with the needs of structural transformation is an integral part of their success.

2. *Agriculture’s role goes beyond poverty reduction and food security*, which are the current core issues in the international debate. These two objectives are obviously indisputable, but in Sub-Saharan Africa, the decisive role of agriculture within the economic transition must be emphasized. Historical records clearly show that the careful management of the equilibrium between agriculture growth, rural depopulation and urban development has always been a main preoccupation of governments, which at all times tried to deal with the risks of urban concentration and unemployment. It was the case of Europe during the 19th century until the mid-20th century. It was also a central issue for the transformation of the Asian economies after WWII, where strong public incentives for the development of agriculture were main drivers for the promotion of private initiative. By contributing to the development of farm incomes, these incentives fostered local consumption and rural diversification, and helped to decrease pressure towards internal migration. By raising production, they helped to reduce food and labor costs and facilitated global economic transformation. In Sub-Saharan Africa, the policy debate, and particularly the CADDP agenda, must reconnect with this broader perspective.

3. *The recipe to increase productivity must be carefully formulated.* To bolster farm income and production, productivity increase is a common central target, particularly in lagging countries that did not engage in the intensification process and mainly relied on land colonization for their agricultural growth. Many well-known ingredients are part of the recipe for success: public goods provision (infrastructure, research, information, and capacity building), improvement of imperfect markets (typically inputs and sometimes marketing), incentives for the development of missing markets (credit, technical support), and specific regulation and risk mitigation mechanisms. What is more difficult is to mix these ingredients in the policy bowl, to devise tailor-made policies, to define their adequate sequencing, so as to take heed of the more global economic and demographic challenges. If productivity increase is central, it must seriously take into account the farm and agrarian structures and anticipate every option's impact on employment. This means careful design of the techniques selected, which must avoid any immoderate job destruction if effective alternatives are not developed at the same time.

4. *Public policies must deal with the “big numbers”.* Agricultural policies must first target smallholders – who constitute the overwhelming majority of farmers – because they play a major role in terms of creating activities and generating employment and income. This is an imperative with regard to the absence or the weakness of alternatives outside agriculture and to the strong pressure of a growing labor force. This choice does not exclude taking advantage of all the existing opportunities in terms of new markets. In this perspective, high value chains or niche markets can be powerful drivers but they are also limited by their high quality and safety requirements that limit their access only to the producers able to adapt to the rules of the game. Traditional agricultural exports are more accessible and have been strong boosters for the development of many DCs. Although new international prices trends create additional incentives, these international markets are increasingly competitive and require dealing not only with production costs but also with quality and volume of supply. Thus, domestic and regional food markets clearly remain the most accessible for the majority of farmers. Their potential development due to population growth and urbanization is huge. Indeed, domestic and regional markets do not face the same requirements as high-income demand driven markets do. Furthermore, they only compete with food imports on a segment of the local demand and transport cost increase acts as a protection. As a consequence, domestic and regional food markets are the most powerful drivers for “inclusive” agricultural growth. They have huge distribution effects with a direct impact on poverty alleviation and foster local consumption – a central determinant of rural diversification and other economic sectors' expansion.

5. *The knowledge challenge remains a core issue.* There is a continuous need for up-to-date and renewed information on the processes underway in agriculture, in rural economies, and, more broadly, on the labor markets, which – in both rural and urban settings – remain poorly studied. Most of the time, international databases are the only provider of information, which is often inconsistent and, beyond specific case studies, there is no systematic information available. Governments and the donor community must reengage in the design and the management of information systems that are able to capture the new realities of these issues because they form a cornerstone for the definition and formulation of adequate public policies.

With the current soaring food prices, agricultural development is back on the agenda and is rediscovered as a crucial issue after many years of neglect. In this context traditional bilateral and multilateral donors are back with big money, as are new foundations and NGOs, which promote some innovative solutions, often with adequate funding. This new context presents two possible scenarios. First there is a major risk of a proliferation of projects and programs that could lead agriculture away from its important role as a cornerstone of development strategies that enhance the process of structural transformation. But secondly, and more hopefully, this context can provide a major opportunity to solidify agriculture as a permanent and irrevocable component of development policies and thus structural transformation. This is only possible, however, if governments as well as regional and continental initiatives, with the support of the international community, coordinate funding efforts and channel them towards tailor-made policies dedicated to the challenge of economic transition.

Bibliography

1/ RuralStruc National Reports:

- Kenya:

Gamba P. and B. Kibaara, 2007. *“RuralStruc Program. Structural implications of economic liberalization on agriculture and rural Development in Kenya. First phase: National synthesis”*, Ministry of Agriculture/ World Bank/ Tegemeo Institute, January 2007, 138p.

- Madagascar:

Pierre Bernard A., R. Ramboarison, L. Randrianarison, and L. Rondro-Harisoa, 2007. *“Programme RuralStruc. Les implications structurelles de la libéralisation sur l’agriculture et le développement rural. Première phase : Synthèse nationale”*, EPP-PNDR/Banque Mondiale/Coopération Française/APB Consulting, Janvier 2007, 168 p.

- Mali:

Samake A., J.F. Belières, B. Teme, O. Sanogo, M.S. Keita., A. Ahamadou, K. Nubukpo, E.H.O. Tall, and B.S. Coulibaly, 2007. *“Programme RuralStruc. Première phase. Implications structurelles de la libéralisation sur l’agriculture et le développement Rural au Mali. Synthèse nationale”*, Banque Mondiale/ Coopération Française/ CEPIA – Mali, juillet 2007, 206 p.

- Morocco:

Akesbi .N., D. Benatya, and N. El Aoufi., 2007. *“Programme RuralStruc. Implications structurelles de la libéralisation sur l’agriculture et le développement rural. Première phase : Synthèse nationale. Maroc”*, Conseil Général du Développement Agricole/ Banque Mondiale/ Coopération Française/ Institut Agronomique et Vétérinaire Hassan II, Février 2007, 133p.

- Mexico:

Rello F., and F. Saavedra, 2007. *“Implicaciones estructurales de la liberalización en la agricultura y el desarrollo rural. El caso de México”*, Banco Mundial/ FLACSO, Enero 2007, 198 p.

- Nicaragua:

Grigsby V. A.H., and F.J. Perez, 2007. “*RuralStruc Program. Structural implications of economic liberalization on agriculture and rural development in Nicaragua. First phase : National synthesis*”, MAG-FOR/ World Bank/ NITLAPÁN, January 2007, 148p.

- Senegal:

Faye J., C.O. Ba, P.N. Dieye, and M. Dansoko, with collaboration of D.K. Diagne and M. Niang, 2007. “*Implications structurelles de la libéralisation sur l’agriculture et le développement rural au Sénégal (1950 – 2006)*”, Initiative Prospective agricole et rurale (I-PAR)/ Banque Mondiale/ Coopération Française/ ASPRODEB, mars 2007, 181p.

2/ References cited:

Anderson, K. and W. Martin, 2005. *Agricultural Trade Reform and the Doha Development Agenda*. Washington DC, World Bank.

Barrett, C.B. and E. Mutambatsere, 2005. "Agricultural markets in Developing Countries". in Lawrence E. Blume and Steven N. Durlauf (eds.) *The New Palgrave Dictionary of Economics, 2nd Edition*. Palgrave Macmillan. London.

Barrett, C. B. and T. Reardon, 2000. *Asset, Activity, and Income diversification Among African Agriculturalists: Some practical Issues*. New York, Cornell University, Ithaca, Dept of Agricultural, Resource and Managerial Economics.

Bates, B. C., S. Wu and J. P. Palutikof, 2008. *Climate Change and Water. Geneva, International Panel on Climate Change Secretariat*. Technical Paper of the Intergovernmental Panel on Climate Change.

Bauman, P., 2000. *Equity and Efficiency in contract farming schemes: The experience of Agricultural tree crops*. London, UK, Overseas Development Institute. Working Paper No.139.

Berger, S., 2002. *Our First Globalization: Lessons from the French*. MIT, Cambridge.

Bezemer, D. and P. Hazell, 2006. *The agricultural exit problem: an empirical assessment. Rimisp-Latin American Center for Rural Development*. Contribution to the preparation of the World Development Report 2008: “Agriculture for Development”.

Bloom, D., D. Canning and J. Sevilla, 2001. *Economic Growth and the Demographic Transition*. Cambridge, National Bureau of Economic Research. Working paper No. 8665.

Boserup, E., 1965. *The conditions of Agricultural Growth*. George Allen & Unwin, London.

Bouët, A., J.-C. Bureau, Y. Decreux and S. Jean, 2005. "Multilateral Agricultural Trade Liberalisation: The Contrasting Fortunes of Developing Countries in the Doha Round". *World Economy*. 28 (9): 1329-1354.

Boussard, J. M., F. Gérard and M. G. Piketty, 2005. *Libéraliser l'agriculture mondiale? Théorie, modèles et réalités*. Montpellier, CIRAD.

Bryceson, D. F., 1999. *African Rural Labour, Income Diversification and Livelihood Approaches: A long-term Development Perspective*. The Netherlands, Afrika-Studiecentrum.

Bureau, J.-C., S. Jean and A. Matthews, 2006. "The consequences of agricultural trade liberalization for developing countries: distinguishing between genuine benefits and false hopes". *World Trade Review*. 5: 225-249.

Carletto, G., K. Covarrubias, B. Davis, M. Krausova, K. Stamoulis, P. Winters and A. Zezza, 2007. "Rural income generating activities in developing countries: re-assessing the evidence". *Journal of Agricultural and Development Economics*. 4 (1): 146-193.

Chambers R. (Eds.), 1989. "Vulnerability: How the Poor Cope?". *IDS Bulletin*, 20 (2).

Cline, W. R., 2007. *Global Warming and Agriculture: Impact Estimates by Country* Washington DC, Center for Global Development and Peterson Institute for International Economics.

Codron, J.-M., Z. Bouhsina, F. Fort, E. Coudel and A. Puech, 2004. "Supermarkets in Low-income Mediterranean Countries: Impacts on Horticulture Systems". *Development Policy Review*. 22 (5): 587-602.

Collier D., Mahoney J., 1996, "Insights and Pitfalls: Selection Bias in Qualitative Research?" *World Politics*, 49 (1): 56-91.

Collomb, P. (eds), 1999. *Une voie étroite pour la sécurité alimentaire d'ici à 2050*. FAO, Rome.

Davis, B., P. Winters, G. Carletto, K. Covarrubias, E. Quinones, A. Zezza, K. Stamoulis, G. Bonomi and S. DiGiuseppe, 2007. *Rural Income Generating Activities: A Cross Country Comparison*. Washington DC, World Bank - FAO. Background Paper for the World Development Report 2008.

Davis, M., 2006. *The planet of slums*. Verso, New York, London.

De Haas, H., 2006. *Turning the tide? Why 'development instead of migration' policies are bound to fail?* Oxford, International Migration Institute. Working paper No. 2

DIAL, 2007. *Youth and Labour markets in Africa: a critical review of literature*. Développement, Institutions et Analyses de Long terme. Document de travail DT/2007-02.

Djurfeldt, G., H. Holmén, M. Jirström and R. Larsson (eds), 2005. *The African Food Crisis: Lessons from the Asian Green Revolution*, Wallingford, UK.

Eaton, C. and A. W. Shepherd, 2001. *Contract farming: Partnerships for growth*. Rome, FAO.

Echanove, F. and C. Steffen, 2005. "Agribusiness and Farmers in Mexico: the importance of contractual relations". *The Geographical journal*. 171 (2): 166-176.

El Hadad, F., 1995. "Enjeux et perspectives de la filière agrumes du Maroc". *Les agricultures maghrébines à l'aube de l'an 2000*. Ciheam - Options Méditerranéennes, eds. Montpellier, 14 B: 16.

Ellis, F., 1998. "Household Strategies and Rural Livelihood Diversification". *The Journal of Development Studies*. 35 (1): 1-38.

Evans P., 1995. *Embedded Autonomy. States and Industrial Transformation*, Princeton University Press, Princeton.

Fafchamps, M., 2004. *Market Institutions in Sub-Saharan Africa*. Cambridge, MA: MIT Press. .

Ferrandi D. (de), Perry G.E, Foster W., Lederman D., Valdés A., 2005. *Beyond the City. The Rural Contribution to Development*, Washington DC, World Bank.

Food and Agricultural Organization (FAO), 2004. *The State of Food Insecurity in the World*. Rome, FAO.

Food and Agricultural Organization (FAO), 2008. *Soaring food prices: Facts, perspectives, impacts and actions required*. High-level conference on world food security: The challenges of climate change and bio-energy, Rome.

Gastellu, J.-M. and J.-Y. Marchal (eds), 1997. *La ruralité dans les pays du Sud à la fin du XX^e siècle*. ORSTOM, Montpellier.

Gautam M., 2000. *Agriculture Extension: The Kenyan Experience, An Impact Evaluation*. Operations Evaluation Department, Washington DC, World Bank.

Giraud, J. N., 1996. *L'inégalité du monde. Économie du monde contemporain*. Gallimard, Paris.

Gore C., 2003, *Globalization, the International Poverty Trap and Chronic Poverty in the Least Develop Countries*. CPRC Working Paper No 30, UNCTAD, Geneva.

Guengant, J. P., 2007. "La démographie africaine entre convergence et divergence". *L'Afrique face à ces défis démographiques*. Ferry B., eds. Karthala, CEPED, AFD. Paris: 27-121.

Hatton, T. J. and G. W. Williamson, 2005. *Global Migration and the World Economy. Two centuries of Policy and Performance*. The MIT Press, Cambridge (Mass.).

Hatton, T. J. and J. G. Williamson, 2001. *Demographic and Economic Pressure on Emigration Out of Africa*. Cambridge (Mass.), National Bureau of Economic Research. Working Paper No. 8124.

Haugerud, A., 1989. "Land Tenure and Agrarian Change in Kenya: Access, Control and Use of Resources in African Agriculture". *Africa: Journal of the International African Institute*. 59 (1): 61-90.

Hausmann R. and D. Rodrick, 2003. "Economic development as self-discovery". *Journal of Development economics*. 72: 603-33.

Hoekman B., Winters L.A, 2005, *Trade and Employment: Stylized Facts and Research Findings*. World Bank Policy Research Paper 3676, World Bank, Washington, DC.

International Commission on Peace and Food (ICPF), 2005. *Opportunities: An Agenda for Peace and Equitable Development (second Edition)*. The International Commission on Peace and Food.

International Labour Organization (ILO), 2006. *Global Employment Trends*. Geneva, International Labour Office.

Jaffee, S., 2003. *From challenges to opportunity, transforming Kenya's fresh vegetable trade in the context of emerging food safety and other standards in Europe*. Washington DC, World Bank. Agriculture and rural development. Discussion paper No.2.

Kébé D., J.F. Bélières and O. Sanogo, 2003. *Impact de la globalisation et de l'ajustement structurel sur les petits producteurs au Mali*. IER FAO/BM. Bamako.

Kébé D., J.F. Bélières., L. Barret and H. Djouara, 2005. *Diversité des formes d'organisation des producteurs de riz et de coton au Mali: évolutions et perspectives pour un développement agricole durable*. In Les institutions du développement durable des agricultures du Sud. Journées de la SFER 2005, Montpellier.

Kébé D., O. Sanogo, J.F. Bélières, M.S. Keita, S. Keita and T. Hilhorst, 2005. *Évaluation de la pauvreté en zone Office du Niger*. Version finale. IER, Bamako.

Kinyili, J., 2003. *Diagnostic Study of the Tea Industry in Kenya*. Nairobi, Export Promotion Council.

Kydd J., 2002, "Agriculture and Rural Livelihoods: Is Globalization Opening or Blocking Paths out of Rural Poverty?" AgREN Network Paper, No. 121, ODI, London.

Landau, L. and D. Vigneswaran, 2007. *Which migrations? What development? Critical perspectives on European-African relations*. Johannesburg, University of Witswatersrand. Working Paper No. 37

Laurent, C., 2007. *On evidence: Note for the RuralStruc Advisory Committee members*, mimeo, Paris, Inra.

Léonard, E., A. Quesnel and A. del Rey, 2004. "De la comunidad territorial al archipiélago familiar: Movilidad, contractualización de las relaciones intergeneracionales y desarrollo local en el sur del estado de Veracruz". *Estudios sociológicos*. XXII (66): 557-589.

Léonard, E., B. Losch and F. Rello, 2006. "Recomposiciones de la economía rural y mutaciones de la acción pública en el México de TLAN". *Rumbo rural*: 48-61.

Lilyan, E. F., K. P. Richard and Y. Bingxin, 2004. "Institutions and agricultural productivity in Sub-Saharan Africa". *Agricultural economics*. 31 (2-3): 169-180.

Losch, B., N. Laudié, F. Varlet and F. Ruf, 1997. *Politiques publiques et agriculture: une mise en perspective des cas mexicains, camerounais et indonésien*. CIRAD, Montpellier.

Maertens, M. and J. F. M. Swinnen, 2006. *Trade, Standards, and Poverty: evidence from Senegal*. LICOS Centre for Institutions and Economic Performance & Department of Economics, University of Leuven.

Maertens, M., L. Dries, F. A. Dedehouanou and J. F. M. Swinnen, 2006. *High-value supply chains, food Standards and rural Households in Senegal*. Leuven, Leuven Interdisciplinary Research Group on International Agreements and Sustainable Development. Working Paper No. 9.

Mahoney J., 2001. "Path-Dependent Explanations of Regime Change: Central America in Comparative Perspective". *Studies in Comparative International Development*, 36 (1): 111-141.

Maimbo, S. M. and D. Ratha (eds), 2005. *Remittances, Development Impact and Future Prospects*. World Bank, Washington DC.

Malaga, J. E., G. W. Williams and S. W. Fuller, 2001. "US-Mexico fresh vegetable trade: the effects of trade liberalization and economic growth". *Agricultural Economics*. 26 (1): 45-55.

Mariko D., A. Chohin-Kuper and V. Kelly, 1999. *La filière riz à l'Office du Niger au Mali : une nouvelle dynamique depuis la dévaluation du FCFA*. Institut d'économie rurale (IER) et Institut du Sahel (INSAH). Bamako.

Marsh, R. R. and D. Runsten. 1996. *The Potential for Small-Holder Fruit and Vegetable Production in Mexico: Barriers, Opportunities, and an Alternative Model*. Tri-National Research Symposium: NAFTA and Agriculture: Is the Experiment Working?, San Antonio, Texas.

Mazoyer, M., 2001. *Protecting small Farmers and the rural poor in the context of globalization*. Rome, FAO. .

McMichael, P., 1996. *Development and Social Change. A Global Perspective*. Pine Forge Press, Thousand Oaks, London, New Delhi.

Neven, D. and T. Reardon, 2004. "The Rise of Kenyan Supermarkets and the Evolution of Their Horticulture Product Procurement Systems". *Development Policy Review*. 22 (6): 669-99.

O'Rourke, K. H. and J. G. Williamson, 1999. *Globalization and History: The Evolution of the Nineteenth-Century Atlantic Economy*. MIT Press, Cambridge.

OECD-FAO, 2008. *Agricultural outlook 2008-2017: Highlights*. OECD/FAO.

Pierson P., 2000, "Increasing Returns, Path Dependence, and the Study of Politics". *The American Political Science Review*, 94 (2): 251-267.

Polaski, S., 2006. *Winners and losers: Impact of The Doha Round on Developing Countries*. Washington DC, Carnegie endowment for International Peace.

Pratap, S. and E. Quintin, 2006. *The informal sector in developing economies*. UNU-Wider. Research Paper No. 2006/130.

Pritchett L., 2007, *Bilateral Guest Workers Agreements: A win-win solutions for rich countries and for poor people in the developing world*, Center for Global Development, CGD Brief.

Rahman, A. Z., 2004. "Correlation between green revolution and population growth: revisited in the context of Bangladesh and India". *Asian Affairs*. 26 (3): 41-60.

Ranis, G. 2008. *Relationships between migration and development*. Social Science Research Council Conference, Migration and Development: Future Directions for Research and Policy, New York City.15.

Ratha, D. and W. Shaw, 2007. *South-South Migration and Remittances*. Washington DC, World Bank. World Bank Working Paper No. 102.

Reardon, T. and J. Huang, 2008. *Regoverning Markets: Keys to Inclusion of Small-Scale Producers in Dynamic Markets*. Meso-Level Restructuring of the Food Industry in Developing Countries. A First Synthesis Report of Component 1: Meso Study.

Reardon, T., 1997. "Using Evidence of Household Income Diversification to Inform Study of the Rural Nonfarm Labor Market in Africa". *World Development*. 25 (5): 735-747.

Reardon, T. and C.P. Timmer, 2007. "Transformation of Markets for Agricultural Output in Developing Countries Since 1950: How Has Thinking Changed?," Robert Evenson & Prabhu Pingali (eds.), 2007. *Handbook of Agricultural Economics*, Elsevier, edition 1, 3 (1): 2807-2855.

Schwentenius, R. and M. A. Gomez, 2002. "Supermarkets in Mexico: Impacts on Horticulture Systems". *Development Policy Review*. 20 (4): 487-502.

Shaw, W., 2007. *Migration in Africa: A review of the literature on international migrations in 10 countries*. Washington DC, World Bank.

Stifel, D., 2007. *Assessing labour market conditions in Madagascar, 2001-2005*. Washington DC, World Bank. Africa Region Working Paper No. 105.

Stiglitz J.E, 1998. *Towards a New Paradigm for Development: Strategies, Policies and Process*. 9th Raul Prebisch Lecture, October 19, 1998, UNCTAD, Geneva.

Society for International Development, 2006. *Reading on Inequality in Kenya*. Nairobi, Kenya.

Swinnen, J. F. M. and M. Maertens, 2006. *Globalization, privatization, and vertical coordination in food value chains in developing and transition countries*. Leuven Interdisciplinary Research Group on International Agreements and Development. Working paper No. 12.

Timmer, C. P. and S. Akkus, 2008. *The Structural Transformation as a Pathway out of Poverty: Analytics, Empirics and Politics*. Washington DC, Center for Global Development. Working paper No. 150.

UN-Habitat, 2003. *The Challenge of the Slums: Global Report on Human Settlements 2003*. Nairobi, London, Sterling, UN-Habitat.

United Nations, 1997. *Glossary of Environment Statistics, Studies in Methods, Series F*, No. 67, United Nations, New York.

United Nations, 2007. *Rural Households' Livelihood and Well-Being: Statistics on Rural Development and Agriculture Household Income*. United Nations, New York and Geneva.

Warning, M. and N. Key, 2002. "The Social Performance and Distributional Consequences of Contract Farming: An Equilibrium Analysis of the Arachide de Bouche Program in Senegal". *World Development*. 30 (2): 255-263.

Winters L.A., McCulloch N., McKay A., 2004, "Trade Liberalization and Poverty: The Evidence So Far". *Journal of Economic Literature*, Vol. XLII (March): 72-115.

World Bank, 2005a. *Pro-poor Growth. Country Experiences in the 1990's*. PREM Network. Washington DC, World Bank.

World Bank, 2005b. *Concept note. RuralStruc Program: Structural Implications of Liberalization on Agriculture and Rural Development*. Washington DC, World Bank, ESSD Africa, AFTSD.

World Bank, 2006. *Economic Implications of Remittances and Migration, Global Economic Prospects*. Washington DC, World Bank.

World Bank, 2007. *World Development Report 2008: Agriculture for Development*. Washington DC, World Bank. .

Yunes Naude, A., 2003. "The dismantling of CONASUPO, a Mexican State Trader in Agriculture". *The World Economy*. 26: 97-122.

Zeller, M., B. Minten, C. Lapenu, E. Ralison and C. Randrianarisoa. 2001. *Les liens entre croissance économique, réduction de la pauvreté, et durabilité de l'environnement à Madagascar*. Séminaire international "la pauvreté à Madagascar: état des lieux, réflexions sur les politiques de réduction de la pauvreté et leur mise en œuvre" Antananarivo.

List of Acronyms

AFD: Agence Française de Développement

AgEAP: Agricultural EAP

AGOA: African Growth and Opportunity Act

CAADP: Comprehensive Africa Agriculture Development Program

CAFTA: Central American Free Trade Agreement

CIRAD: Centre de Coopération Internationale en Recherche Agronomique pour le Développement

DCs: Developing countries

DDA: Doha Development Agenda

DDC: Direction du Développement et de la Coopération (Swiss Development Agency)

EAP: Economically active population

ECA: Economic Commission for Africa

EPAs: Economic Partnership Agreements

FAO: Food and Agriculture Organization

FDI: Foreign direct investment

FTA: Free Trade Agreement

GATT: General Agreement on Tariffs and Trade

GDP: Gross domestic product

IFAD: International Fund for Agricultural Development

ILO: International Labor Organization

IPCC: Intergovernmental Panel on Climate Change

LDCs: Least Developed Countries

LSMS: Living Standards Measurement Study

MDGs: Millennium Development Goals

NAFTA: North American Free Trade Agreement

NEPAD: New Partnership for Africa's Development

OECD: Organization of Economic Co-operation and Development

RIGA: Rural Income Generating Activities)

RS: RuralStruc Program

SPS: Sanitary and Phytosanitary Measures

SSA: Sub-Saharan Africa

WDI: World Development Indicators

WDR08: World Development Report 2008 "Agriculture for Development"

WTO: World Trade Organization

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Annex 1
Structural change in historical perspective :
A statistical comparative approach
1960-2005

A statistical overview of the structural characteristics of the RS countries can only be fully executed if placed in context by other country cases. In this annex, four countries are chosen for comparative purposes: Brazil, Chile, Indonesia and Thailand.

This selection is by no means random, these comparative countries are emerging economies, all within the middle-income category, that have made significant achievements on their path to structural change and economic development through growth strategies that are generally liberalized and export-oriented. In Latin America, Brazil recently achieved the ninth rank in world GDP, as measured by PPP (Purchasing Power Parity) (2006), whilst Chile has also been successful at maintaining the fastest growing economy in the region over the past 15 years. In Asia, Indonesia and Thailand have both recovered from the 1997 financial crisis with projections of economic growth rate pegged at 6% in 2007 for Indonesia and an average growth rate of 5.6 % for the 2002 – 2006 period for Thailand.

As a side-note, India and China are often chosen as comparative cases in current discussions on economic development processes but they are not presented here because their macro figures, particularly their large demographic sizes, make them both unique cases.

Data and methodology

The RS first phase national reports have served as a qualitative knowledge base for this statistical annex. Qualitative information on the four comparative countries was sourced from country briefs produced by the World Bank²⁹. Data was extracted from the World Bank databases (GDF & WDI Central) for use in every section of this statistical annex and was accompanied by data provided by FAO (FAOSTAT) in the assessments of population variables such as economically active population (EAP) and rural population. The following notes are an outline of the compilation of the figures presented in this statistical annex.

Trends of GDP per capita

The data tables – annual data from 1960 until mid-2000s - will not be presented in the annex because they are extensive. There was enough data to assess trends for the “GDP per capita (constant 2000 US\$)” indicator for the entire 40-year period but data records only start from 1980-onwards for the “GDP per capita, PPP (constant international \$)” indicator.

²⁹ Country Briefs for Indonesia (August 2007), Brazil and Chile (October 2007), and Thailand (February 2008).

Trade Composition

Under this section, the aim was to assess the trends in trade composition for the sample of countries from 1960 until mid-2000s. The indicator illustrating the share of total exports held by agriculture was calculated as the sum of the indicators “Agricultural raw materials exports (% of merchandise exports)” and “Food exports (% of merchandise exports)” in the World Bank databases (originating from COMTRADE). The components of each of these indicators can be found below in section Table 20).

The shares of total exports accounted for by agriculture was used to construct averages of 5-year periods for the time period and was also used to construct the corresponding non-agricultural exports for each country. Both results were tabulated before being presented in graphical form. This data is identical to that used in the structural transformation exercises.

Primary, Secondary and Tertiary Sectors

The indicator “Agriculture, value added (% of GDP)” was chosen as a proxy for the primary sector, “Industry, value added (% of GDP)” as a proxy for the secondary sector and “Services, etc., value added (% of GDP)” for the tertiary sector. Averages of 5-year periods were created and tabulated before being presented in graphical form.

All RS countries had sufficient data for these particular series except for Morocco and Nicaragua. For the case of Morocco, actual shares of GDP were calculated using value added series, delineated in current US\$m, for agriculture, industry and services and GDP in current US\$m. For the case of Nicaragua, data was sourced from Banco Central de Nicaragua for the available years of 1960-1999 and the remainder of the series (2000-2004) was sourced from the World Bank databases. The specific data that was sourced from the Central Bank was in total values, in current prices, from the country’s “Actividad Primaria” (Primary activity), “Actividad Secundaria” (Secondary activity) and its “Actividad Terciaria” (Tertiary activity). It must be noted that although the data components of the production sectors from the two data sources are broadly similar, they are not strictly comparable. For instance, the relatively small component of electricity, water and gas is included in the “Industry, value added (% of GDP)” World Bank indicator, but is excluded from the “Actividad Secundaria”, Banco Central indicator and included in the “Actividad Terciara”. The exact components of each of the variables are outlined below Table 21;

Agricultural Indicators

Structural transformation was assessed with the use of four indicators which were aggregated in diamond charts: Rural population (% of total population), Agricultural GDP (% of GDP), Agricultural exports (% of exports) and Agricultural EAP (% of EAP). For the RS countries, there was an incomplete set of data for the share (%) held of GDP by agriculture in Madagascar, Mali and Nicaragua (in the 1960s for the three countries and only for Nicaragua in the 1980s). The comparative countries – Brazil, Chile, Indonesia and Thailand – all have complete sets of data points for the required variables.

The “GAP” indicator (the difference between the share of GDP held by agriculture and that of EAP held by Agriculture) was also created from the available data. This was tabulated and used with the share indicators to create a graph that incorporates the three time-periods of 1961-1965, 1981-1985 and 2001-2005.

Data Analysis

Trends of GDP per capita

GDP per capita is an indicator that is used universally as a comparative measure of national wealth and the following graphs (Figure 10 and Figure 11) illustrate the historical trends of the RS countries and the comparative countries.

Mexico, which was chosen as a benchmark in the RS study, is an upper-middle-income country and OECD member, and is placed with the four comparative countries because its GDP per capita trajectory follows a similar trend to those of this group of countries. The six other RS countries are low-income or lower-middle-income countries and have trajectories that are comparable with each other and are thus grouped together. This is illustrated in Table 1 below with the chosen year of 2006 for GDP per capita (constant US\$).

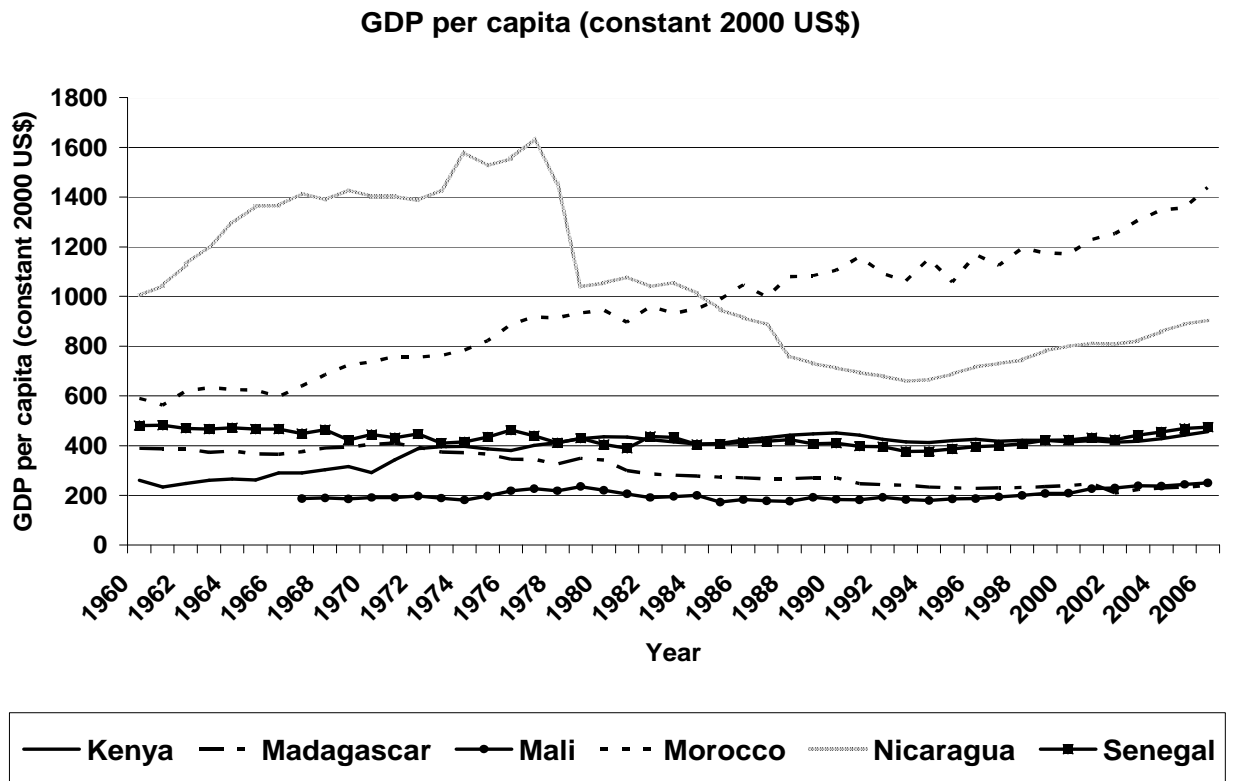
Table 18: RS and comparative countries: GDP per capita and income classification

	Population (MM) ¹	GDP per capita (constant 2000 US\$) (2006) ²	Income Classification ³
Madagascar	18.6	238	Low-income (\$905 or less)
Mali	11.6	250	
Kenya	35.6	456	
Senegal	11.8	473	
Nicaragua	5.5	904	Lower-middle-income (\$906 - \$3,595)
Indonesia	226.1	983	
Morocco	30.5	1439	
Thailand	63.0	2549	
Brazil	186.8	4055	Upper-middle-income (\$3,596 - \$11,115)
Chile	16.3	5846	
Mexico	104.3	6387	

Note: High income bracket: \$11,116 or more³

Sources: ¹ United Nations Development Program (UNDP) 2005 figures, ² World Bank (2007), ³ Income categories based on World Bank Atlas method: 2006 GNI per capita statistics

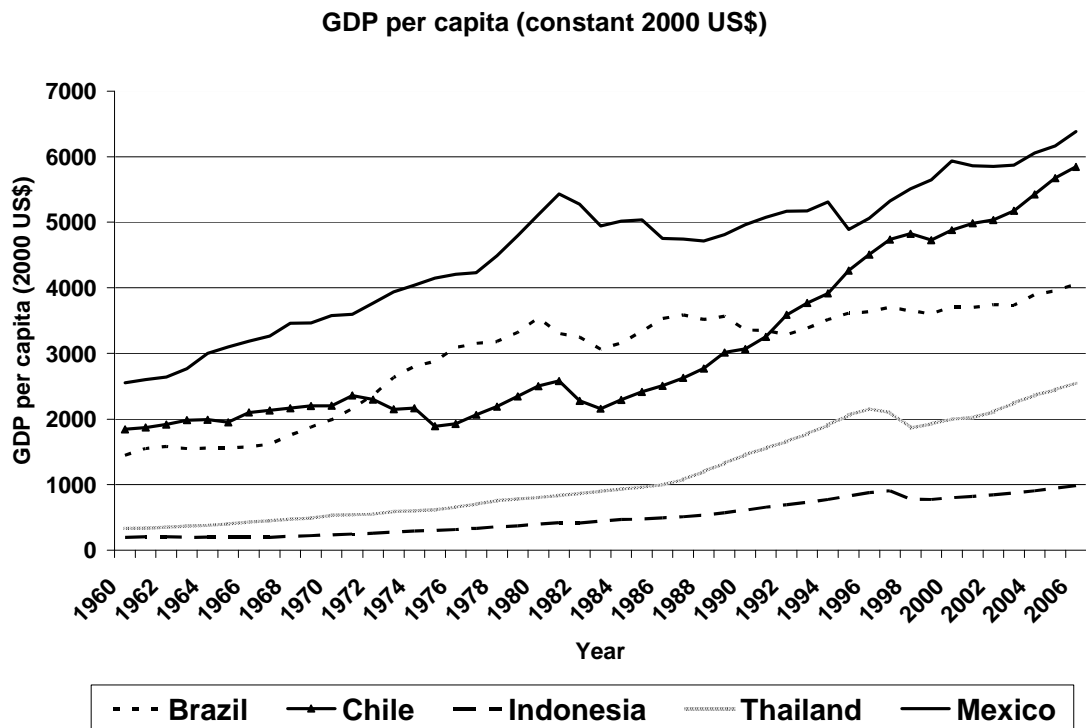
Figure 10:



In Figure 10, the RS countries are seen to have GDP per capita trends that are in accordance with their country classifications; the lower-middle-income countries of Nicaragua and Morocco are logically at a higher level than the four other RS countries. However, the progress made by Morocco over the four decades must be noted and assessed relative to the higher platform reached by Thailand and Indonesia, countries that started at the same level (see below). In the case of Nicaragua, the trend clearly shows the impact of the civil war. All the other low income countries from the RS group share a common characteristic of stagnation.

As for the comparative countries of Brazil, Chile, Indonesia and Thailand, along with Mexico, they are all on rising trajectories, in line with their respective country classifications as seen in Figure 11.

Figure 11



The assessment of the GDP per capita indicator can be enhanced by using the GDP per capita (PPP) which takes into account the differences in the cost of living across different countries. As seen in a comparison of Figures 1 and 2 with Figures 3 and 4, the trends (and subsequent country rankings) in the series remain largely unaltered although the levels logically change, when GDP per capita (PPP) is used.

Assessing the trend of the GDP per capita indicator as GDP per capita (PPP) provides no spectacular differences in marked trends as seen in the Figures 3 and 4 below even though the shortage of data for the period 1960 – 1980 renders an assessment of this earlier period impossible using this data alone. However, Brazil and particularly Mexico show a certain stagnation over the last two decades, and Thailand and Indonesia appear closer to the other RS countries group in the early 1980s.

Figure 12:

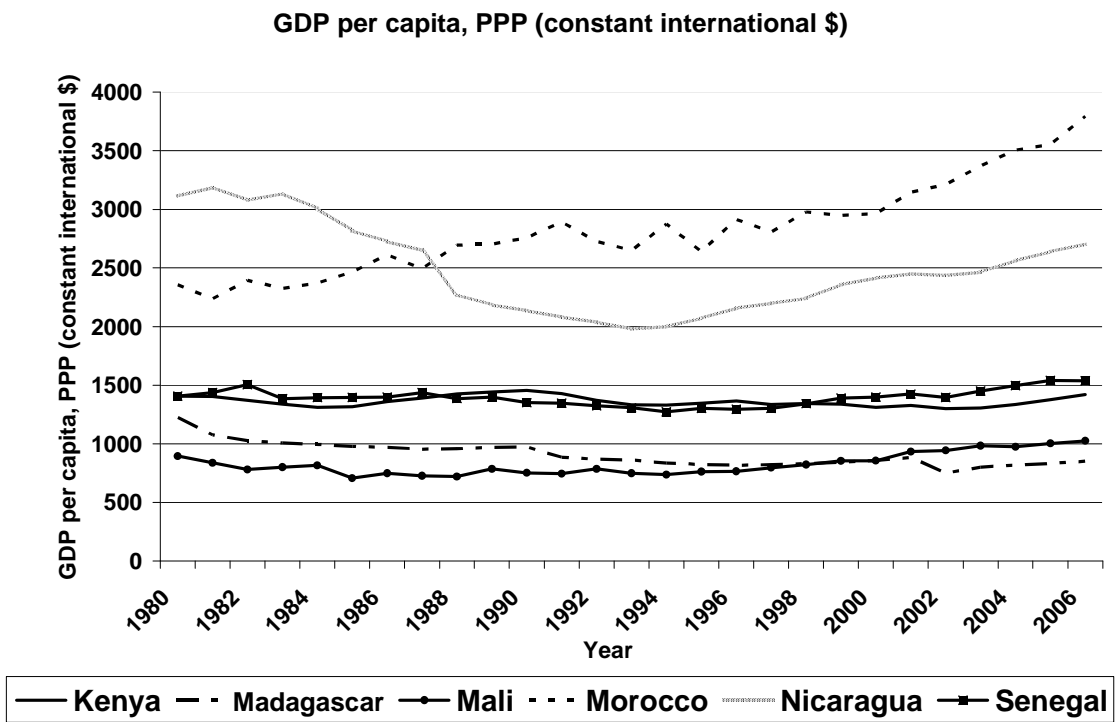
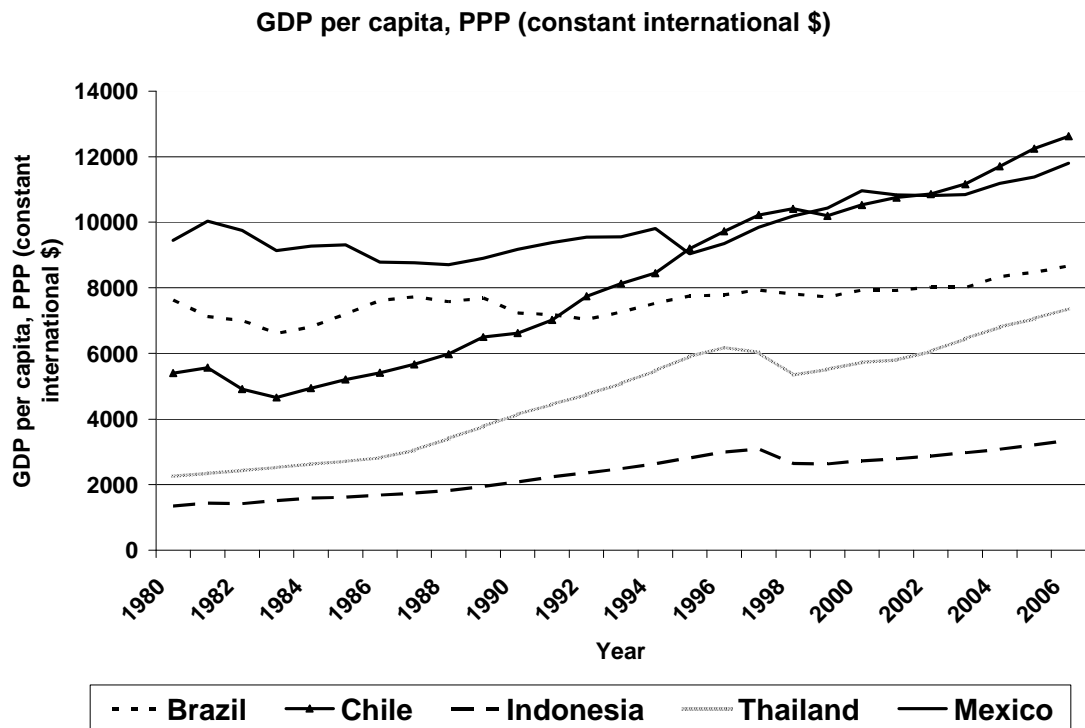


Figure 13:



Trade Composition: Agricultural and Non-Agricultural Shares of Exports

Economic change can be assessed through an evaluation of the composition of exports in trade. This is because as a country develops from being agriculturally-based to industrially-based, the development is expected to be directly reflected in the evolution of the composition of its exports. This process is broadly evident in the sample of countries – there is a general trend of a transformation in the composition of exports from agriculturally-based to industrially-based over time. Chile (Figure 10) appears to be a very specific case over the designated time-period: the share of exports held by agricultural products *rises* whilst non-agricultural exports *decline* over time and clearly illustrates the success of an agricultural exports-led growth strategy.

Figure 14:

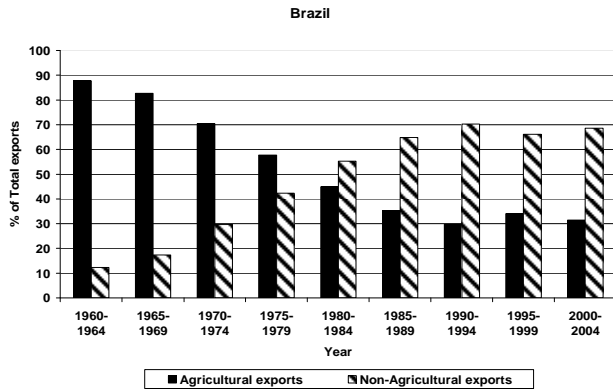


Figure 15:

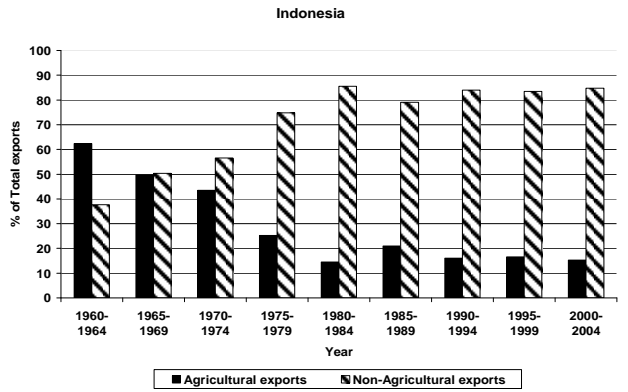


Figure 16:

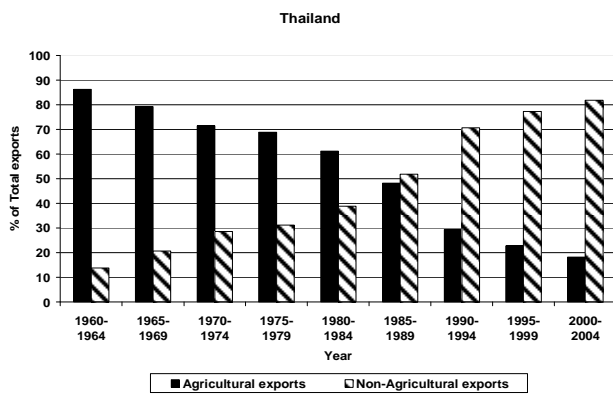


Figure 17:

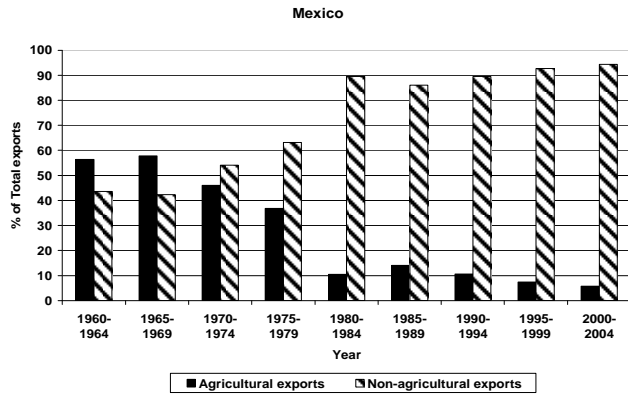


Figure 18:

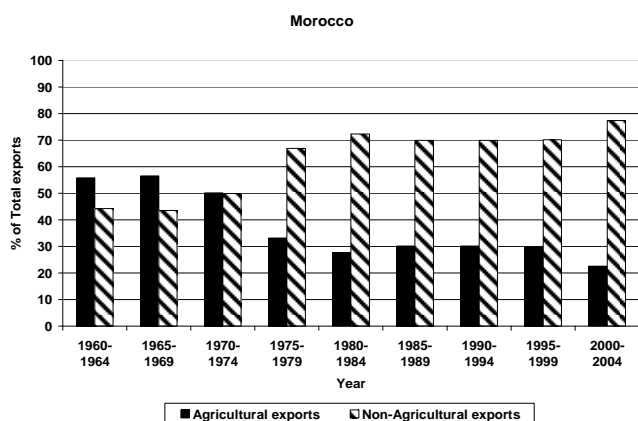
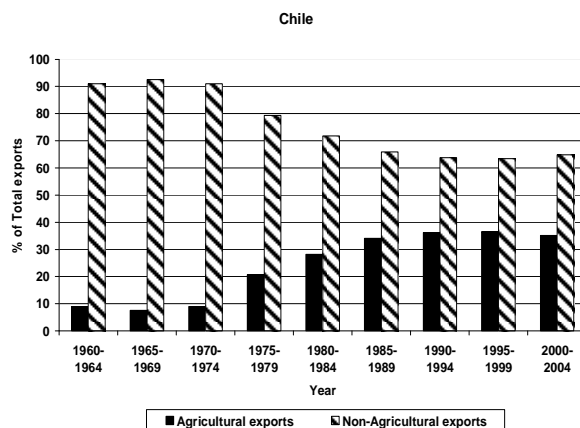


Figure 19:



In the RS group of countries, Madagascar, Nicaragua and Mali each have persistently high agricultural export shares over time, whereas countries like Senegal and Kenya do not exhibit this trait because they are engaged in export diversification, particularly in the case of Senegal. However, it must be noted that in the case of Madagascar and Mali, there is a clear decline in the agricultural export shares accompanied by growing shares of non-agricultural exports, since the mid-1990s, reflecting the development of apparel exports in the case of Madagascar, and the development of gold exports in the case of Mali.

Figure 20:

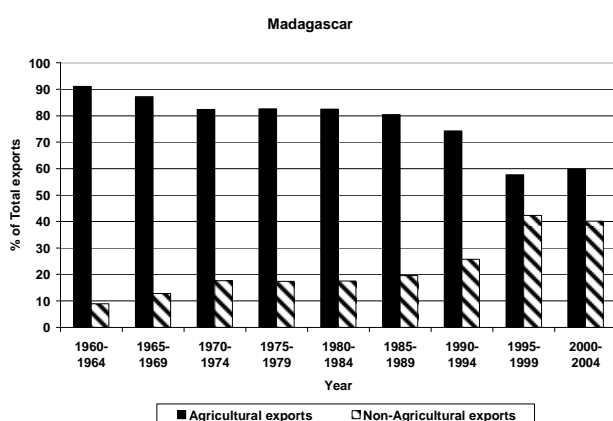


Figure 21:

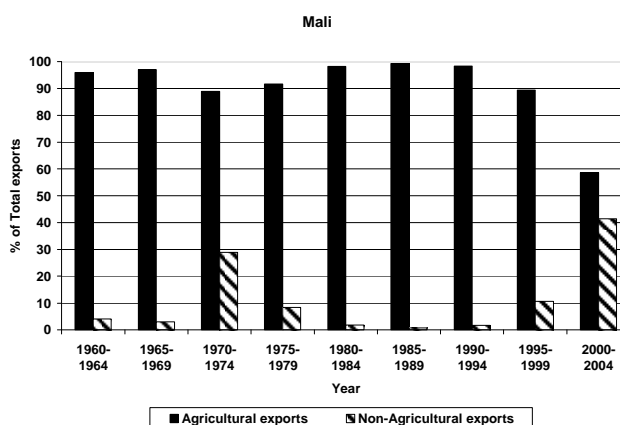


Figure 22:

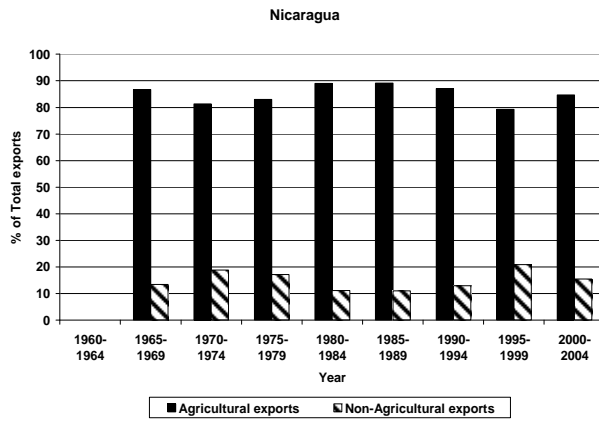


Figure 23:

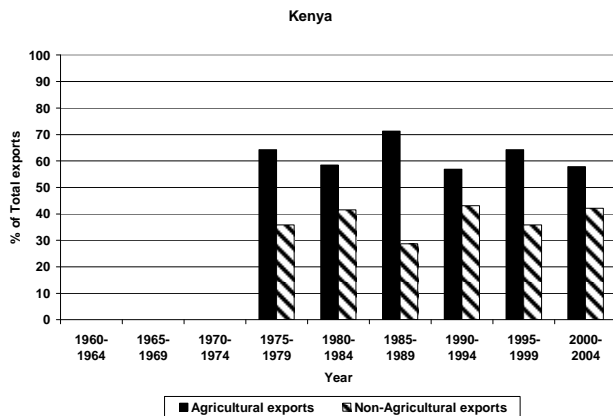
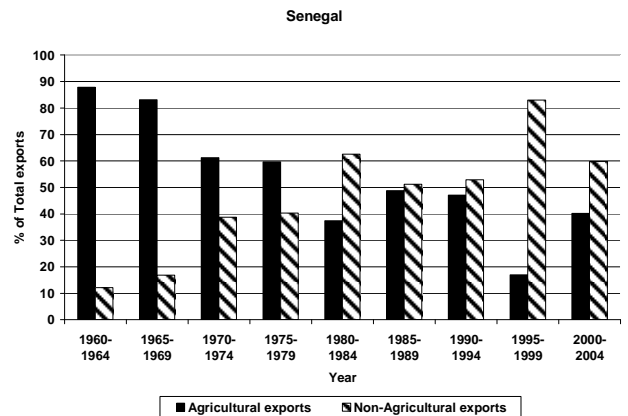


Figure 24:



Structural Transformation:

- Changes in Economic Structure

Trends in structural transformation are a means by which the economic development of countries can be gauged. Structural transformation is a process which is characterized by a decline in the relative importance of agriculture to industry and services and has been witnessed in the historical paths of modern-day's industrializing and post-industrialized nations as they have developed. The decline in relative importance of agriculture is due to the net transfer of production factors from agriculture into industry and services as agriculture experiences its own transformation which is triggered by the rising productivity within that sector.

From the group of comparative countries, Thailand and Indonesia are both cases where structural transformation is clearly underway with the visible decline in agriculture, as a

share of GDP, over time, alongside the increase in the share of GDP held by industry. The only marked difference between these two cases is the generally higher share of GDP accounted for by services for the case of Thailand.

Figure 25:

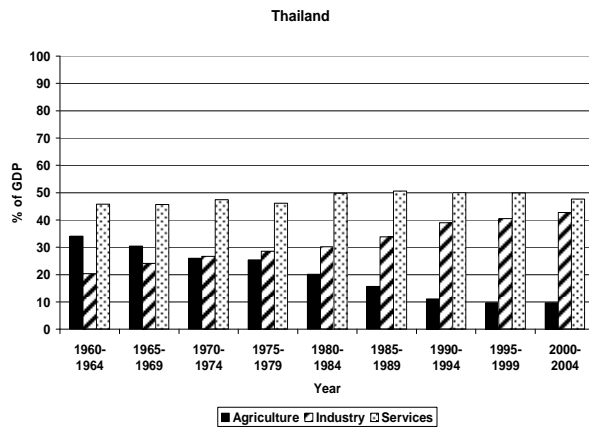
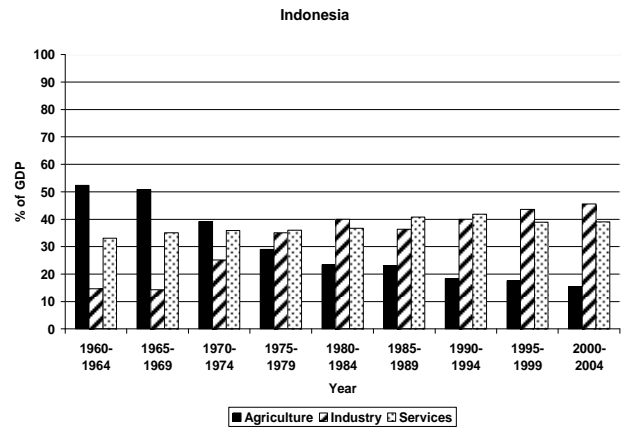


Figure 26:



The other cases of Brazil and Chile produce results that are less striking because structural transformation had already occurred in both countries before the time-period under analysis – in the 1940s and 1950s. In both Brazil and Chile, there is the key feature of declining shares of agriculture, albeit subtle declines, alongside rising shares held by services in Brazil. Brazil is seen to have declining shares held by industry, though, whilst that in Chile remains virtually unchanged. Mexico exhibits a picture of declining agricultural shares of GDP with rising shares accounted for by services but a slight decline in the shares held by industry.

Figure 27:

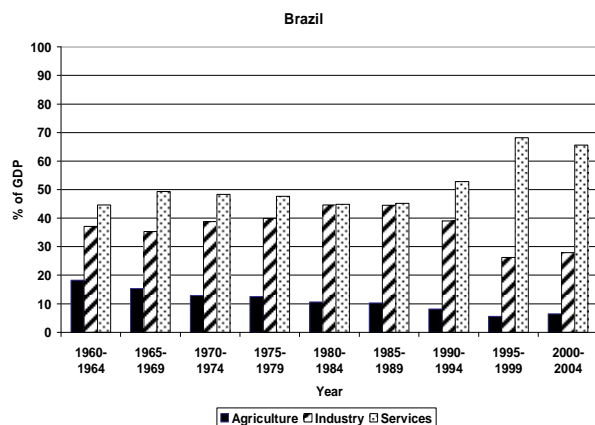


Figure 28:

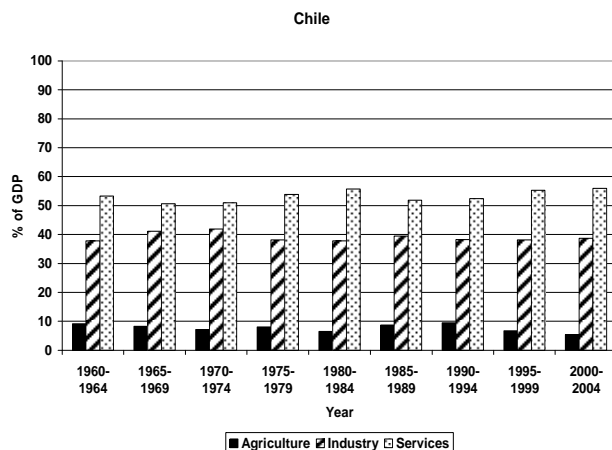
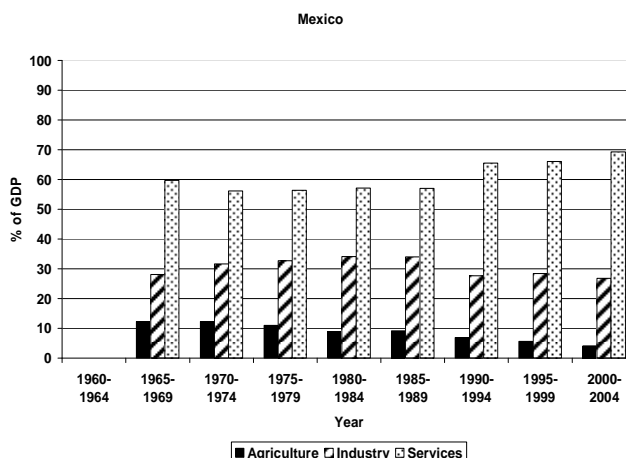


Figure 29:



In view of the evidence from Thailand and Indonesia, it cannot be stated that the process of structural transformation is ‘clearly underway’ in the rest of the RS countries. For the cases of Kenya and Morocco, although there is a decline in the share held by agriculture, there is virtually no change in the share held by industry over the 40-year period from the 1960s to mid-2000s whilst the share held by services has slightly risen throughout the entire period, notably in Kenya. Does it mean that this country has been experiencing a specific transformation with a more direct path from agriculture to services?

Figure 30:

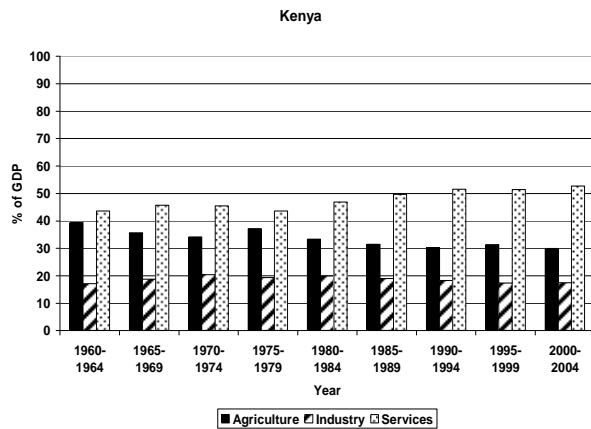
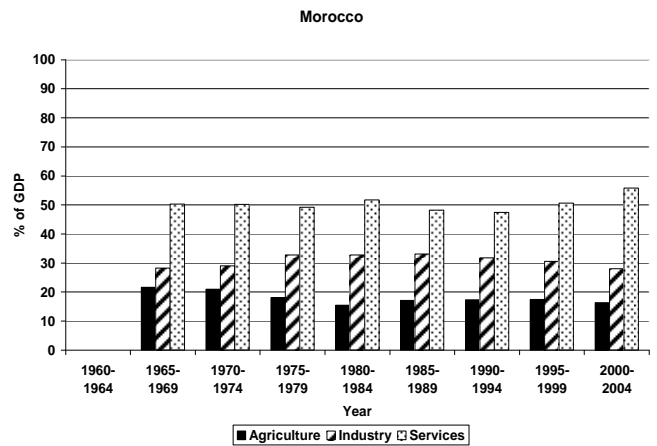


Figure 31:



In Madagascar, the situation is broadly static – the share of agriculture has actually *risen* whilst the share of industry has risen modestly and the share held by services has decreased. For the case of Senegal, although a decline in the share held by agriculture is accompanied by a slight rise in the share held by industry, the share held by services has virtually remained unchanged from the 1960s to the mid-2000s.

Figure 32:

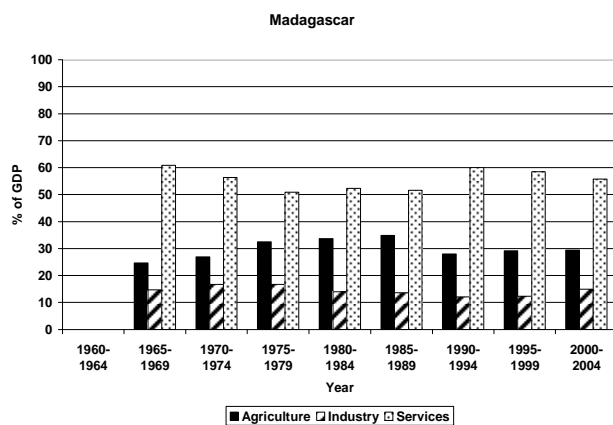
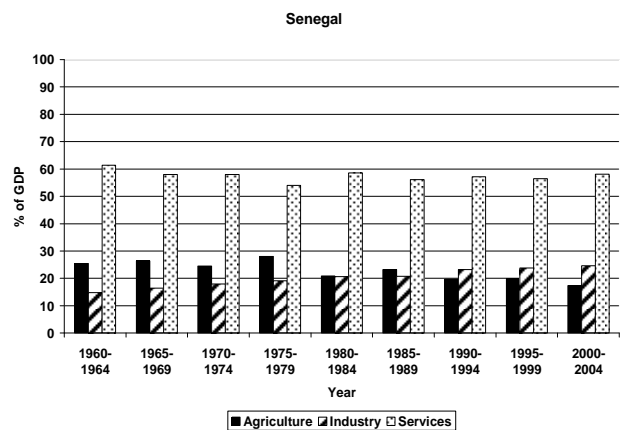


Figure 33:



Nicaragua exhibits a slight decline in the GDP share held by agriculture in the last period which is accompanied by a rise in the share held by industry. Out of all the RS countries, Mali could be seen to exhibit the largest decline in the agricultural share of GDP, from over 65 % in 1965-1969 to just over 35 % in 2000-2004. This trend is accompanied by

dual trends of rising shares held by both industry and services. However, this change is brought about only because of the recent developments in the country's gold industry. Despite these changes, agriculture still holds a significant share of the country's GDP of approximately 45 % of GDP, the highest of all the RS countries.

Figure 34:

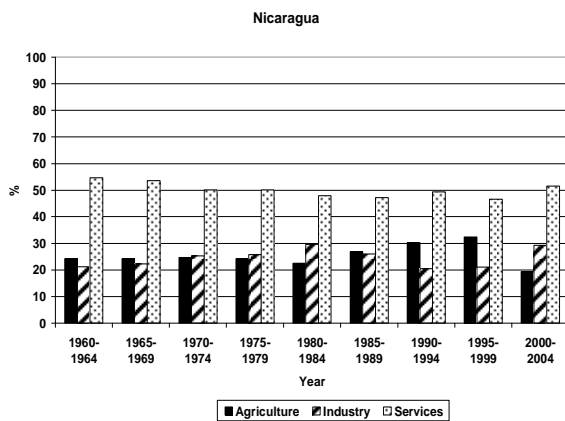
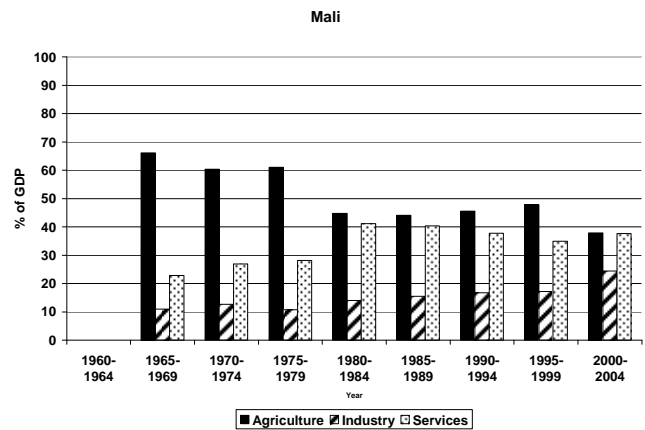


Figure 35:



- Changes in Rural and Agricultural Indicators

To add to this analysis, it is useful to illustrate the trends regarding the general weight of agriculture within the economy as well as the rural/urban divide in the demographic structure, agriculture being the main activity in rural areas. The combination of the share of agriculture in EAP, GDP and trade over 40 years illustrate the economic transformation within the selected countries.

From the group of comparative countries, Thailand (Figure 27) and Indonesia (Figure 28) follow similar transitions with their respective shares of AgEAP and of rural/total population decreasing less than the agriculture share in exports and GDP over the 40-year period. This is in line with a common observation stating that with rapid developers, shares of GDP held by agriculture fall faster than their shares of the labor force. Brazil (Figure 29) and Chile (Figure 30) show a clear convergence over the period and they are structurally similar by the 2000s.

From the group of RS countries, Mexico (Figure 31) is most like the Latin American countries in the comparative cases, with all its agricultural/rural shares falling below 50% of the respective total indicators and a GDP share under 5%, the exception being the small share of agriculture in exports. Morocco also presents a process of change contrary to the other RS countries with marked reductions in its shares. Madagascar (Figure 33) and Kenya (Figure 34) reflect little change. The trends seen in the case of Mali (Figure 37) reflect the developments which have been noted to have been in occurrence in the country since the mid-1990s, notably the decline in the share of exports held by

agriculture in recent years because of the developments in the country's gold industry. Nicaragua (where there is an issue of missing data) is characterized by the strong resilience of its export structure. It must also be noted that the rapid decrease of the EAP reported by the FAO is contradicted by national sources which report higher levels for this indicator.

Figure 36:

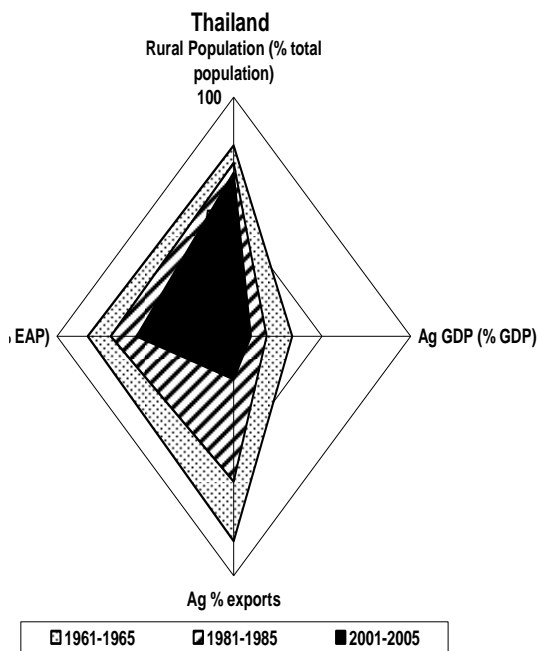


Figure 37:

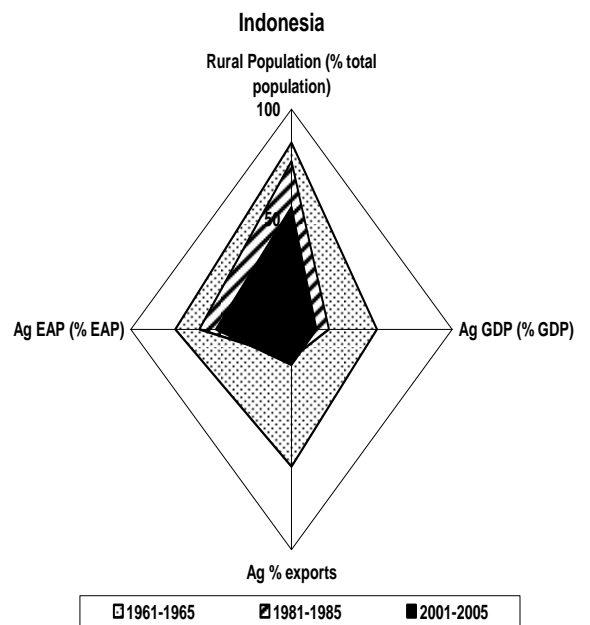


Figure 38:

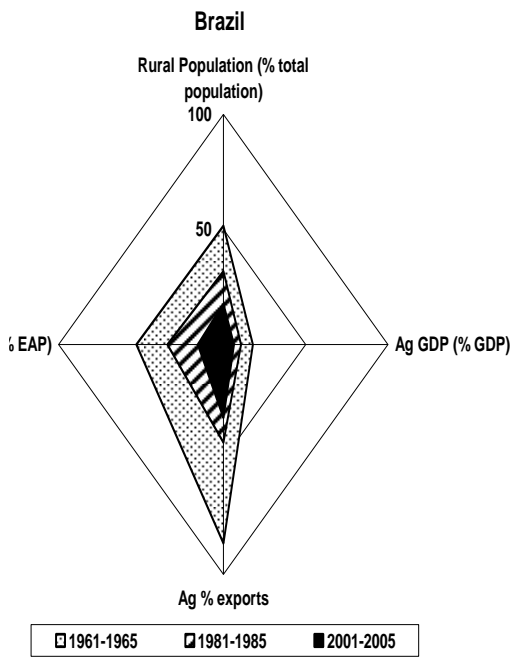


Figure 39:

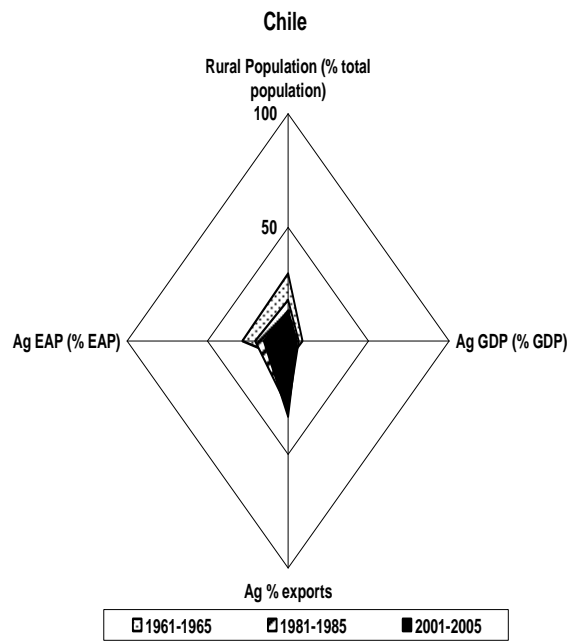


Figure 40

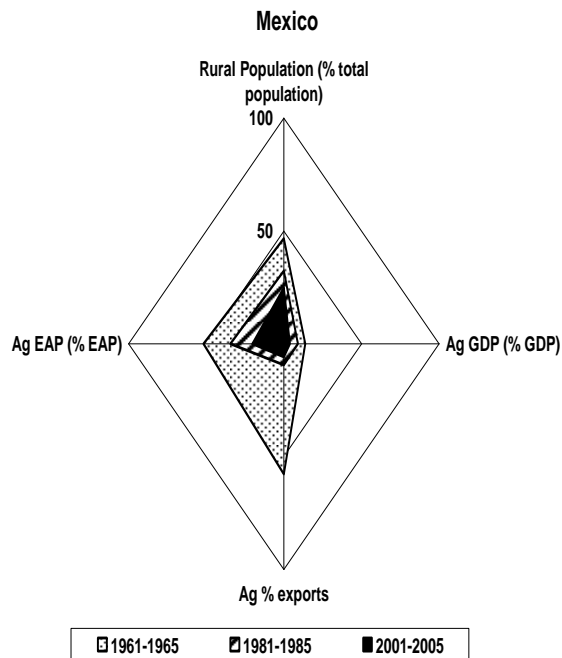


Figure 41

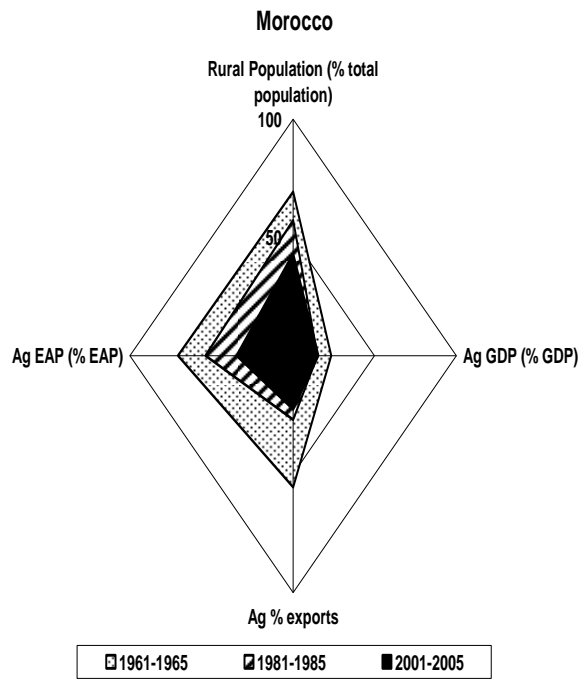


Figure 42:

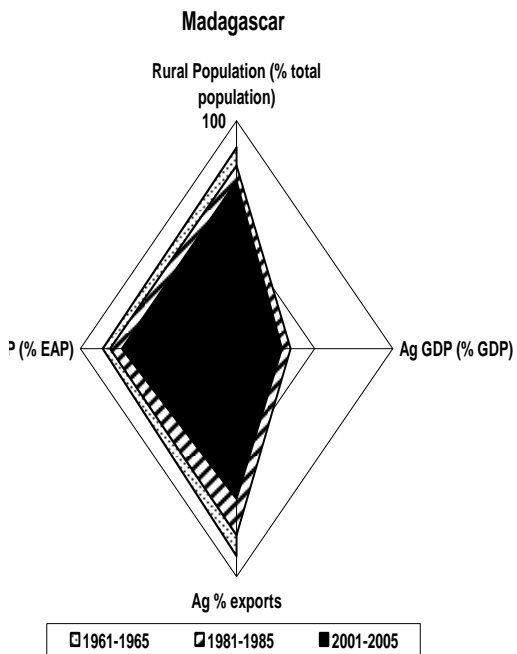


Figure 43:

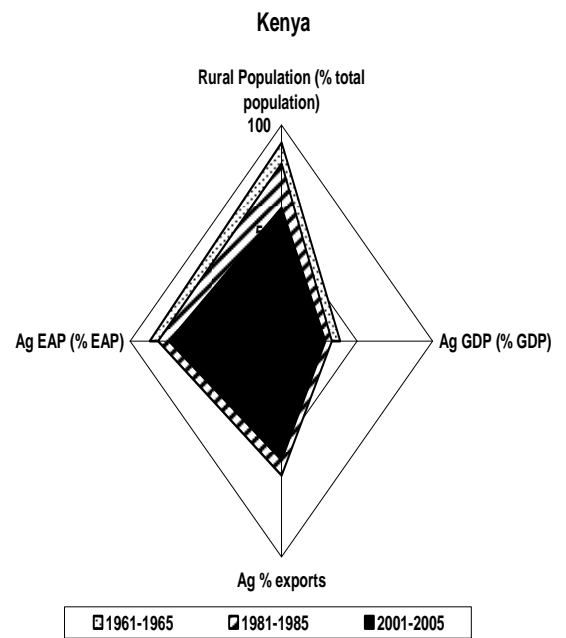


Figure 44:

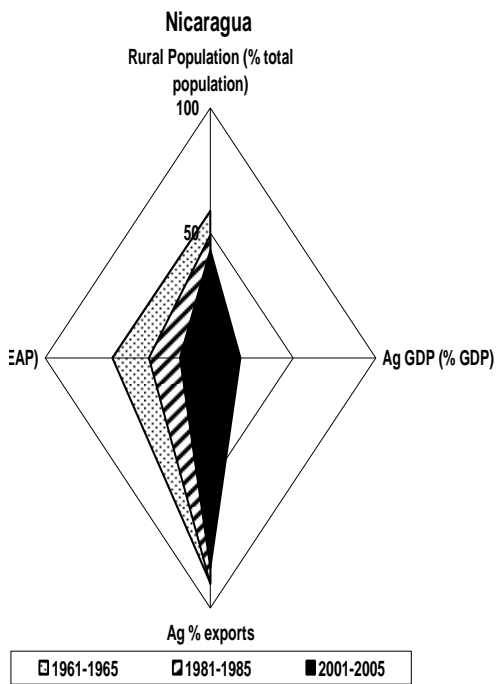


Figure 45:

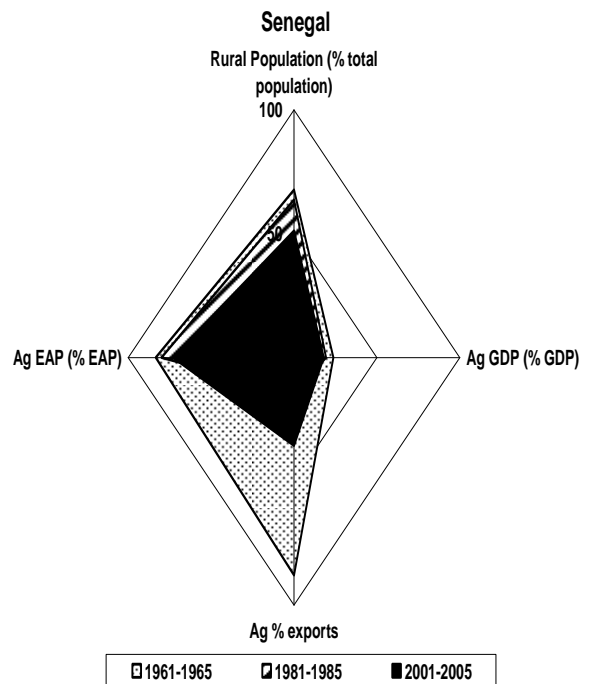
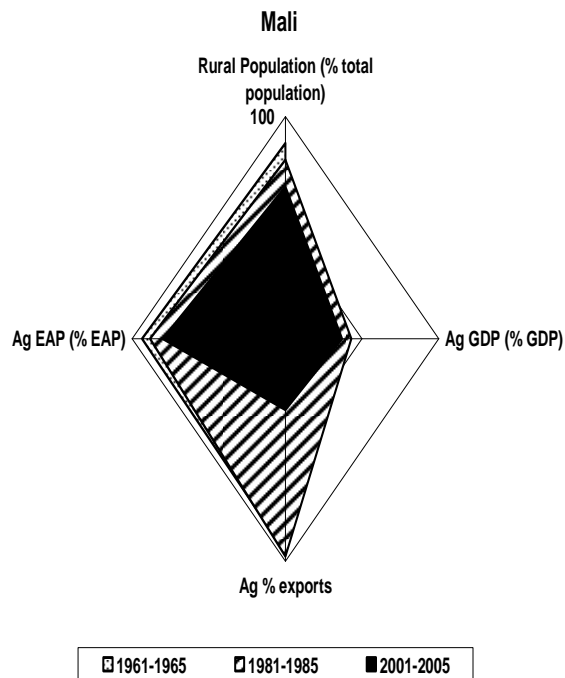


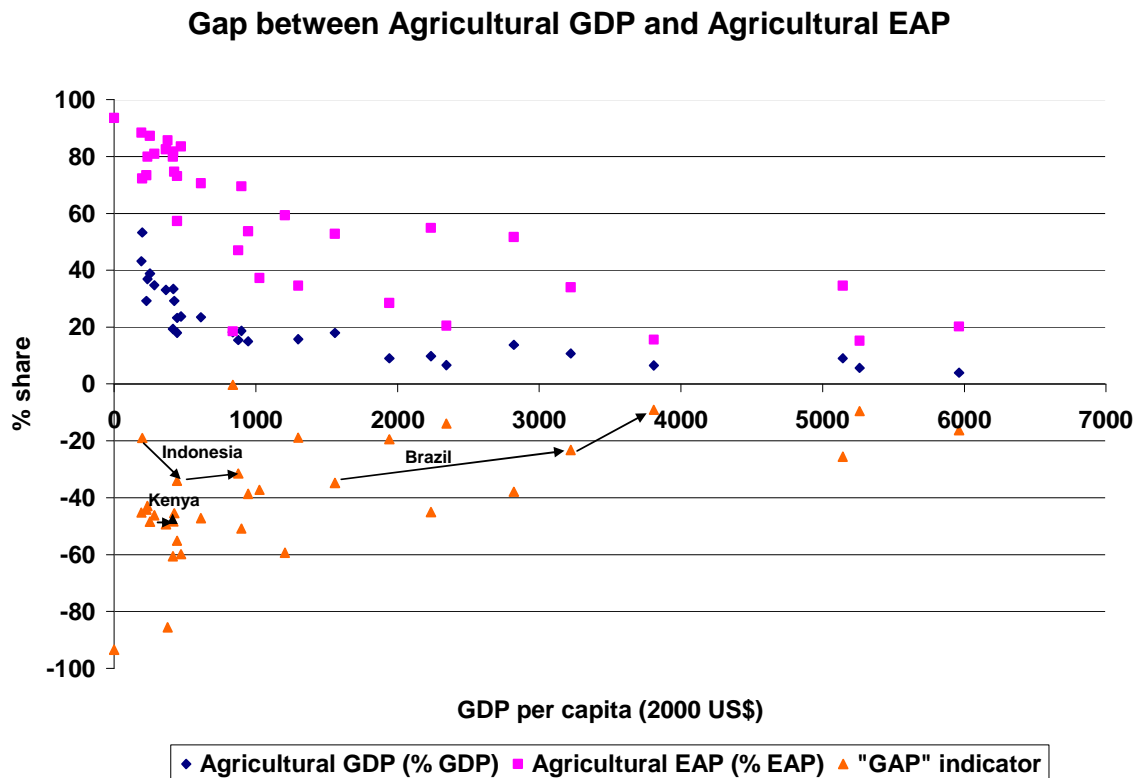
Figure 46



Timmer and Akkus (2008) remind us that analyses of structural transformation tend to focus on the share of GDP and the share of EAP held by agriculture, when it is also important to assess the gap between these two indicators. They address the argument for the use of the “GAP” indicator by showing that one of its advantages is to exhibit the inequality of incomes between agriculture and the other sectors of the economy.

Figure 38 incorporates the three time-periods for the sample of countries in showing the evolution of the Agricultural GDP, Agricultural EAP and the GAP indicator with reference to the evolution of the GDP per capita. In the graph, one can view clear differences in the evolution of the “GAP” indicator with the cases of Brazil, Kenya, and Indonesia.

Figure 47:



Timmer and Akkus stress that the rural-urban income gap widens during the early stages of economic development. This characteristic is very evident in assessing the “gap” for Indonesia where the difference in the shares has widened during the 1980s from the figure of the 1960s (Table 2). Countries like Brazil and Chile which had already experienced their own economic transitions, prior to the time-period under analysis, in the 1940s and 1950s, exhibit a declining difference from the 1960s until the 2000s; this characteristic is also true of Mexico, even if the last period clearly shows a lag. In the RS countries, the change is very slow – the exception being Mexico and Morocco – confirming the global stagnation of their trajectories of structural change.

Table 19: “GAP” indicator

	1961-1965	1981-1985	2001-2005
Brazil	-34.84	-23.18	-9.06
Chile	-19.47	-13.90	-9.53
Indonesia	-19.02	-34.04	-31.55
Kenya	-48.41	-48.36	-45.42
Madagascar		-46.14	-44.20
Mali		-45.19	-42.91
Mexico	-37.92	-25.53	-16.28
Morocco	-47.16	-38.68	-18.87
Nicaragua ¹			-0.31
Senegal	-59.81	-60.60	-55.11
Thailand	-49.41	-50.84	-45.09

Source: World Bank, 2007; FAO, 2007

1Nicaragua: Missing data: Agricultural GDP (% GDP) for 1960s and 1980s

Table 20: Composition of Total Exports: Agricultural and Non-Agricultural Shares

Brazil	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	87.75	82.70	70.35	57.73	44.84	35.18	29.80	33.95	31.48
Non-ag. exports(%of Total exports)	12.25	17.30	29.65	42.27	55.16	64.82	70.20	66.05	68.52
Chile	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	8.99	7.49	9.00	20.70	28.25	34.12	36.23	36.58	35.12
Non-ag. exports(%of Total exports)	91.01	92.51	91.00	79.30	71.75	65.88	63.77	63.42	64.88
Indonesia	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	62.40	49.63	43.48	25.20	14.43	20.89	16.03	16.53	15.29
Non-ag. exports(%of Total exports)	37.60	50.37	56.52	74.80	85.57	79.11	83.97	83.47	84.71
Thailand	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	86.19	79.28	71.42	68.81	61.12	48.23	29.43	22.80	18.20
Non-ag. exports(%of Total exports)	13.81	20.72	28.58	31.19	38.88	51.77	70.57	77.20	81.80
Kenya	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)				64.21	58.47	71.25	56.96	64.22	57.82
Non-ag. exports(%of Total exports)				35.79	41.53	28.75	43.04	35.78	42.18
Madagascar	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	91.08	87.19	82.39	82.66	82.54	80.40	74.24	57.72	59.90
Non-ag. exports(%of Total exports)	8.92	12.81	17.61	17.34	17.46	19.60	25.76	42.28	40.10
Mali	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	95.96	97.00	88.93	91.59	98.20	99.24	98.34	89.37	58.57
Non-ag. exports(%of Total exports)	4.04	3.00	28.86	8.41	1.81	0.76	1.66	10.64	41.44
Mexico	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	56.39	57.76	45.94	36.80	10.48	14.01	10.53	7.35	5.70
Non-ag. exports(%of Total exports)	43.61	42.24	54.06	63.20	89.52	85.99	89.47	92.65	94.30
Morocco	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	55.83	56.47	50.10	33.14	27.65	30.12	30.13	29.83	22.61
Non-ag. exports(%of Total exports)	44.17	43.53	49.90	66.86	72.35	69.88	69.87	70.17	77.39

Nicaragua	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)		86.66	81.23	82.91	88.95	89.04	87.08	79.17	84.64
Non-ag. exports(%of Total exports)		13.34	18.77	17.09	11.05	10.96	12.92	20.83	15.36
Senegal	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Ag.exports(%of Total exports)	87.85	83.12	61.28	59.68	37.45	48.83	47.14	16.97	40.25
Non-ag. exports(%of Total exports)	12.15	16.88	38.72	40.32	62.55	51.17	52.86	83.04	59.75

Source: World Bank, 2007

Notes:

Definition of "Agricultural raw materials exports (% of merchandise exports)", World Bank: "Components may not sum to 100 % because of unclassified trade. Agricultural raw materials comprise SITC section 2 (crude materials except fuels) excluding divisions 22, 27 (crude fertilizers and minerals excluding coal, petroleum, and precious stones), and 28 (metalliferous ores and scrap). World Bank staff estimates from the COMTRADE database maintained by the United Nations Statistics Division."

Definition of "Food exports (% of merchandise exports)", World Bank: "Components may not sum to 100 % because of unclassified trade. Food comprises the commodities in SITC sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats) and SITC division 22 (oil seeds, oil nuts, and oil kernels). World Bank staff estimates from the COMTRADE database maintained by the United Nations Statistics Division."

Table 21: Agriculture, Industry, Services

Brazil	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	18.30	15.36	12.90	12.48	10.62	10.27	8.20	5.53	6.50
Industry (%)	37.14	35.27	38.80	39.86	44.56	44.53	39.03	26.25	27.93
Services (%)	44.56	49.37	48.30	47.66	44.81	45.20	52.76	68.21	65.57
Chile	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	9.12	8.26	7.18	8.07	6.49	8.68	9.44	6.71	5.36
Industry (%)	37.80	41.10	41.88	38.06	37.81	39.48	38.18	38.06	38.66
Services (%)	53.29	50.64	50.93	53.87	55.69	51.84	52.37	55.22	55.97
Indonesia	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	52.29	50.76	39.08	28.96	23.38	22.98	18.30	17.52	15.44
Industry (%)	14.70	14.22	25.09	35.04	39.96	36.29	39.90	43.64	45.57
Services (%)	33.02	35.02	35.83	36.00	36.67	40.73	41.80	38.85	38.99
Kenya	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	39.39	35.61	34.14	37.10	33.33	31.45	30.25	31.28	29.92
Industry (%)	17.05	18.77	20.41	19.35	19.87	18.96	18.25	17.28	17.44
Services (%)	43.56	45.62	45.45	43.54	46.80	49.59	51.50	51.44	52.64
Madagascar	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)		24.60	26.95	32.43	33.69	34.91	27.98	29.21	29.35
Industry (%)		14.63	16.71	16.66	14.02	13.57	12.01	12.28	14.90
Services (%)		60.78	56.34	50.91	52.30	51.53	60.02	58.51	55.75
Mali	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)		66.16	60.38	61.08	44.74	44.14	45.54	47.77	37.91
Industry (%)		10.96	12.70	10.77	14.07	15.49	16.75	17.23	24.39
Services (%)		22.88	26.92	28.16	41.19	40.37	37.71	34.99	37.69
Mexico	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)		12.21	12.21	10.99	8.79	9.14	6.86	5.53	4.01
Industry (%)		28.07	31.65	32.70	34.08	33.93	27.63	28.41	26.76
Services (%)		59.73	56.14	56.31	57.13	56.93	65.50	66.06	69.22
Morocco¹	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)		21.59	20.91	18.07	15.36	17.09	17.28	17.37	16.36
Industry (%)		28.18	28.96	32.75	32.68	33.04	31.74	30.53	27.96
Services (%)		50.24	50.14	49.17	51.63	48.16	47.38	50.53	55.81
Nicaragua²	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	24.23	24.15	24.68	24.16	22.58	26.82	30.19	32.36	19.33
Industry (%)	21.14	22.33	25.27	25.77	29.55	25.98	20.52	21.03	29.18
Services (%)	54.63	53.51	50.05	50.07	47.86	47.20	49.29	46.61	51.49
Senegal	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	25.48	26.41	24.51	27.99	20.81	23.20	19.68	19.81	17.38
Industry (%)	14.80	16.49	17.92	19.07	20.59	20.74	23.22	23.75	24.58
Services (%)	61.32	57.96	58.01	53.98	58.61	56.07	57.10	56.44	58.05

Thailand	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004
Agriculture(%)	34.00	30.38	25.98	25.37	20.16	15.69	11.04	9.73	9.66
Industry (%)	20.27	24.04	26.62	28.53	30.17	33.82	39.00	40.46	42.73
Services (%)	45.73	45.57	47.41	46.10	49.67	50.49	49.96	49.82	47.61

Source: World Bank, 2008

¹ For the case of Morocco: series calculated using value added series for agriculture, industry and services delineated in current US\$m and current US\$m GDP

² For the case of Nicaragua: Years 1960-1999 calculated using data from Banco Central de Nicaragua, May 2008, <http://www.bcn.gob.ni>; years 2000-2004 calculated using data from World Bank, 2008

Notes: Definitions of production indicators, World Bank

“Agriculture, value added (% of GDP)”: “Agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.”

“Industry, value added (% of GDP)”: “Industry corresponds to ISIC divisions 10-45 and includes manufacturing (ISIC divisions 15-37). It comprises value added in mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas.”

“Services, etc., value added (% of GDP)”: “Services correspond to ISIC divisions 50-99 and they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling.”

For each of the World Bank definitions, the following note is attached: “Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator. World Bank national accounts data, and OECD National Accounts data files.”

Components of production indicators, Banco Central de Nicaragua:

- “Actividad Primaria” (Primary Activity): agriculture, livestock, fishing, forestry.
- “Actividad Secundaria” (Secondary Activity): industrial manufacturing, construction, mining.
- “Actividad Terciaria” (Tertiary Activity): commerce, general government, transport and communication, banks and securities, energy, electricity and potable water, housing property and other services.

Table 22: Radar Chart Data

	1961-1965	1981-1985	2001-2005
Brazil			
Rural Population (% total population)	51.66	31.92	17.61
Ag GDP (% GDP)	17.93	10.73	6.51
Ag % exports	86.45	42.67	31.91
Ag EAP (% EAP)	52.77	33.91	15.57
Chile			
Rural Population (% total population)	29.73	18.09	13.34
Ag GDP (% GDP)	8.98	6.57	5.66
Ag % exports	8.50	29.80	33.32
Ag EAP (% EAP)	28.45	20.47	15.19
Indonesia			
Rural Population (% total population)	84.68	76.34	55.50
Ag GDP (% GDP)	53.19	23.22	15.43
Ag % exports	62.40	13.26	16.12
Ag EAP (% EAP)	72.22	57.26	46.98
Kenya			
Rural Population (% total population)	91.89	82.31	61.69
Ag GDP (% GDP)	38.81	33.33	29.13
Ag % exports		62.26	55.29
Ag EAP (% EAP)	87.22	81.69	74.55
Madagascar			
Rural Population (% total population)	88.28	80.44	73.68
Ag GDP (% GDP)		34.70	29.14
Ag % exports	90.93	81.79	65.82
Ag EAP (% EAP)	85.57	80.84	73.34
Mali			
Rural Population (% total population)	88.02	80.52	68.39
Ag GDP (% GDP)		43.14	36.91
Ag % exports	96.00	97.74	31.93
Ag EAP (% EAP)	93.43	88.33	79.82
Mexico			
Rural Population (% total population)	46.71	32.33	24.81
Ag GDP (% GDP)	13.74	9.00	3.94
Ag % exports	57.75	9.31	5.78
Ag EAP (% EAP)	51.66	34.53	20.22
Morocco			
Rural Population (% total population)	69.23	57.28	43.22
Ag GDP (% GDP)	23.45	15.00	15.68
Ag % exports	55.55	27.02	22.58
Ag EAP (% EAP)	70.61	53.67	34.54
Nicaragua			
Rural Population (% total population)	58.78	49.15	43.01
Ag GDP (% GDP)			18.20
Ag % exports	90.02	90.48	84.03

Ag EAP (% EAP)	59.33	37.28	18.51
Senegal			
Rural Population (% total population)	67.61	63.59	51.08
Ag GDP (% GDP)	23.70	19.34	17.97
Ag % exports	87.90	14.40	35.59
Ag EAP (% EAP)	83.50	79.94	73.08
Thailand			
Rural Population (% total population)	79.82	72.61	68.40
Ag GDP (% GDP)	33.09	18.67	9.78
Ag % exports	85.61	60.69	17.88
Ag EAP (% EAP)	82.50	69.51	54.86

Source: World Bank, 2007; FAO, 2007

Annex 2

EXECUTIVE SUMMARIES of PHASE I NATIONAL REPORTS

KENYA REPORT

Paul Gamba, Betty Kibaara, January. 2007, 138p.

During the colonial period, policies in agriculture and rural development favored white settler agriculture. The indigenous populations were confined to reserve lands mainly providing labor to settlers. Land policies articulated during this time favored the settler-run, large-scale agriculture with commodity boards instituted to cater for marketing and regulating agricultural production. Towards independence (early 1960s) land subdivision consolidation, registration reallocation and relaxing restrictions on commercial enterprises through the Swynerton plan permitted the entry of indigenous population into hitherto exclusive and lucrative agricultural enterprise. The post-independence economic experience in Kenya can be viewed in three stages: pre-liberalization era (period before 1980), liberalization era (1980-2002) and post-liberalization era (2003 and the period thereafter)

Upon gaining independence, the new government inherited a colonial economic structure that put an emphasis on import substitution policy propped with overvalued exchange rates. To achieve macroeconomic stabilization, the government imposed quantitative controls, high tariffs on competing imports, highly overvalued exchange rates, price and wage regulations, taxation of exports and requirement of 'no objection certificates' from domestic producers. The rapid economic growth realized during this time was attributed to inward-oriented policies and stable macroeconomic management. During this period, agricultural funding and rural development was imbalanced with resources directed towards high potential areas and marginalization of low

potential areas. The effects emanating from the first and second oil shocks and the coffee boom served to destabilize the economic trend.

The introduction of Structural Adjustment Programs (SAPs) in 1980 marked the start of liberalization in Kenya. The aim of SAPs was to shift the economy from inward-orientation to externally-oriented policies that subject economic agents to competition. The SAPs required the following:

- liberalization of prices and marketing systems
- financial policy reforms
- international trade reforms
- government budget rationalization
- divestiture and privatization
- parastatals reforms, and
- civil service reforms.

The early 1980s were marked by government reluctance to implement the SAPs. By 1985, the shortcomings of import substitution policy were evident leading to the enactment of Session paper No. 1 of 1986 on Economic Management for Renewed Growth. This marked the turning point of economic policy from protectionism and import substitution policies to export promotion. This committed the government to moving away from import controls, gradual reduction in tariffs, tariff harmonization and tariffication of quantitative restrictions. The system of export incentives included Manufacturing under Bond (MUB), general import duty and VAT exemption scheme, government financed export credit guarantees and a proposal of a fully functioning Preferential Trade Area (PTA).

Kenya was classified as an 'open' economy in 1993 by the World Bank (WB). Although unsuccessful, the first wave of liberalization culminated into the second wave in which new export promotion strategies were instituted and unsuccessful ones were abandoned. The whole period of the implementation of SAPs occurred in the backdrop of limited democratic space. The government implemented the reforms with little or no consultation from the private sector or stakeholders. The timing and sequencing of the reforms varied and the pace of implementation was uneven resulting in periods of progress and stagnation. The full opening of the economy in 1993 coincided with a rapidly changing political scene, embracing multiparty democracy and reduced external aid. Nevertheless, economic growth continued, albeit in a declining manner. In 1995, the country signed onto the World Trade Organization agreement (WTO) in accession to General Agreement on Trade and Tariffs (GATT). Other pacts which followed were the Common Market for Eastern and Southern Africa (COMESA), African Growth Opportunity Act (AGOA) and the reviewed African Caribbean Pacific-European Union (ACP-EU).

The onset of the liberalization saw the economy grow at a slow pace with real GDP and real agricultural GDP (AgGDP) growth rates declining. Real GDP grew from 32 billion in 1980 to 84 billion in 1990 and 103 billion in 2000. The annual average growth rate was estimated to be 17 % and 2.2 % in 1980/90 and 1990/00 respectively. The country's real GDP in 2005 was estimated at 1172.1 million Kshs signifying a 5.8 % increase from 2004 (CBS, 2006). The real GDP has been on the rise since independence... The decline in economic growth which followed is attributed to the opening up of the economy which saw the exposure to

external competition.

Agriculture and rural development

Economic growth in Kenya is still strongly pegged on agricultural contribution with an estimated 1 % growth in agriculture resulting to 1.6 % growth in the overall GDP. Despite this role, over the last two decades agricultural contribution to overall economic growth has declined from 34.18 % in 1980, 28.38 % in 1992 and finally 26.4 % in 2003. The sector declined from a growth of 4.4 % in 1996 to 1.5 % in 1999 to a negative of 2.4 % in 2002 but showed a minimal growth of 0.7 % in 2003.

Agricultural development and rural development cannot exist independently of each other. Agriculture is the major livelihood source to the rural households in Kenya. About 80 % of Kenya's population live in the rural areas and derive their livelihood from agriculture through crop and livestock production, forestry and exploitation of other natural resources. This population constitutes over 70 % of the Kenyan population living below the poverty line. The decline in agricultural growth coincides with the economic liberalization that opened the economy agricultural imports and decline in governmental support to agriculture. Reduced government support led to an increase in production costs which reduced the country's comparative advantage by making the country's agricultural products relatively more expensive.

The effects of liberalization on different sub-sectors and economic agents are varied. While some sectors of the economy have been casualties, others have managed to perform well under similar economic conditions. Sub-sectors such as coffee and sugar have regressed under liberalization with declining crop area, output, productivities and low world prices. Despite the general increase in area under coffee, production fell from a high of 128.3

thousand tons in 1988 to a low of 45.2 thousand tons in 2005 while unroasted coffee exports declined from 126,498 tons in 1986 to as low as 50,951 tons in 2005. The poor trend in coffee exports is due to the decline in world coffee prices. In contrast, tea and horticulture have had an increase in area, output, productivity, and international returns during this period. The sector export value was estimated at 42.29 billion in 2005, up from 22.8 billion in 1997. The area and output of tea had also increased significantly. The development of the tea sector is mainly attributed to the KTDA which has been in the forefront of fostering smallholder tea growth and the efforts of TRF which has fostered research on high-yielding tea varieties. On the other hand, the development of the horticultural sector which was dominated by the private sector is attributed to little government interference. The sector exports were estimated at 13.75 billion in 1997 and 44.56 in 2005. Despite the setting of quality and safety standards in the EU market, the sector has performed well.

Informal (off-farm) sector

The exit option for the declining agricultural performance, over the period, has been the informal sector. The sector has developed since 1992 and has employed an estimated 6.12 million directly and indirectly. This accounts for nearly a third of the country's labor force. Most of the sector is rural-based and with trade, service provision and manufacturing being the significant sub-sectors. The growth of the informal sector is largely attributed to the liberalization of the communications sector and the cotton industry. The AGOA pact although cited as a cause of the cotton industry losses, is also recognized as having created many jobs through the sale of imported secondhand clothes. Liberalization in the communications sector opened the gates to

the new communication technologies and service delivery.

Migration, urban concentration and rural depopulation

Both domestic and international migrations have taken place with rural-urban migration characterizing most of domestic migration. Urban centers have increased simultaneously with the increase in the urban population. Urban population reached an estimated 5.4 million in 1999 up from 0.7 million in 1962. Urban centers increased from 34 in 1980 to 380 in 1999. The rate of rural-urban migration, when taken as the rate of growth of annual successive urban population, sometimes surpassed the rural population growth rate resulting in rural depopulation and urban concentration. It is hypothesized that the educated, skilled and productive people are more inclined to migrate from the rural areas so the rural-urban migration has deprived the rural areas of agricultural labor force hence leaving rural areas with less skilled labor. However, currently rural-urban migration trend is negative indicating that, either urban households are migrating back to the rural areas or the rural households have stopped migrating to the urban areas. International migration declined from the pre-independence period to the early 1990s, when it was triggered by political agitation for a multi-party system. This trend persisted to mid- 1990s when it became reversed. In 2005, estimates of international migrations indicate that majority of the Kenyans are in the UK which accounted for 33 %, and surprisingly, Tanzania, which accounted for 26 % ahead of USA and the Southern American countries which accounted for 19 %. The reasons for the pattern of international migration observed here are probably anchored in the strict entry rules and the anticipated job or educational opportunities.

Remittances

It is evident that migrants do not sever their relationship with rural areas. The transfer of funds between urban and rural inhabitants has been enhanced by reforms in the financial and communications services. Although there is little information available on the remitted amounts and the specific uses, evidence exists to show the increasing importance of remittances in agriculture and rural development. Currently, the Kenyan government has started to recognize the significance of remittances from abroad and is assessing the possibility of these remittances being a substitute to Foreign Direct Investment (FDI) by creating an investment environment. While there may be limitation to international data, domestic remittances have been shown to increase by 1.98 % from 1997 to 2004

Trade

Kenya's imports have exceeded its exports, even in the import substitution period and the trend of imports and exports became more pronounced after the economy was opened up and the reforms had taken place. Exchange rate fluctuations also became more pronounced and dictated the import-export trends. Trade liberalization led to an increase in the trade volume with higher imports than exports. The cover ratio declined over the period indicating an increase in imports. Following the same trend, agricultural imports are on the rise relative to exports signaling the declining competitive strength of agricultural production. The extent of these effects to the country's comparative advantage however remains unknown.

Poverty and inequality

Under the economic reforms regime, poverty prevalence has increased. Poverty increased from 48.8 % in 1981/82 to 59.56 % 2000 within the rural areas, 29.3 in 1992

to 51.48 in 2000 and nationally it increased from 46.8 in 1981/82 to 56.78 in 2000. Economic reforms are clearly linked to poverty under the assumption that trade reforms reduce poverty and enhance human development through fostered economic growth. Trade reforms influence the enterprises, distribution channels and government expenditure thereby affecting poor households. The poor in Kenya are mainly found in rural and marginal areas where agriculture is the main livelihood source. Arable land resource is on the decline due to the exploding population, labor force migration is leaving the rural areas depopulated and without human capital resources. Environmental degradation is pushing resources further away from the reach of poor households trapping them in the environment-poverty convolution. The decline in productivity occurred in the middle of a rising population leading to increasing unemployment and, subsequently, rising poverty levels. The reduced revenue in the agricultural sector, especially in the sugar and coffee planting areas, has resulted in a loss of livelihoods. It is evident that between 1997 and 2004, household income declined by 6 %. The disparity in income changes witnessed in various agro-ecological zones is an indicator of the extent of the income inequality. Furthermore, the inequality gap has widened over the years, as the Gini coefficient has increased from 0.52 in 1997 to 0.55 in 2000.

Structure and evolution of agricultural marketing chains

Agricultural marketing in Kenya was dominated by boards which were responsible for controlling production and marketing of the output. Some of the boards were: Kenya Dairy Board (KDB) (created in 1958), the Maize and Produce Board (1950) later evolving into the National Cereals and Produce Board, Tea

Board (1951) and the Coffee Marketing Board (1946). Upon liberalization, the roles and functions of these boards were refocused to make them more efficient and competitive in service delivery. The liberalization of the market saw the entry and exit of marketing agents, with concentration and integration taking place along the chain. The dairy sector, maize, coffee and tea sub-sectors witnessed the entry of new market agents while those incompetent agents withdrew from the market. The boards partly maintained regulatory roles mainly to maintain standards and quality of produce. There was also the emergence of alternative marketing chains especially in maize and dairy where it is estimated that these alternative chains control a significant share of the market. For instance, in dairy it is estimated that the informal chain controls over 80% of the marketed milk. Input supply chains such as those of maize seed and fertilizers were also liberalized. Increased use of these inputs is attributed to the extensive availability which was achieved after freeing the market.

Segmentation in production structures

Agricultural production in Kenya is characteristically regional. The country is divided into segments that each support major agricultural production on the basis of climatic conditions. This segmentation was developed during the colonial period and was perpetuated by post-independence governments which emphasized the development of the high-potential regions at the expense of the rural-arid areas. Economic reforms initiated in the early 1980s further segmented even the high-potential areas triggering inner-regional segmentation. Today, segmentation can be viewed in terms of agricultural production that is dictated by climatic conditions and public investment in infrastructure. Economic reforms have had different effects in different regions depending on

the type of agricultural production in the area and resulting in economic imbalances, poverty and inequity.

Liberalization appears to have reinforced differential development that was initiated during the colonial period through the classification of regions on the basis of crop potential and subsequent resource allocation. Liberalization effects on large and small-scale farmers does not present a clear picture but can be discerned more clearly along commodity lines.

While this study has identified structural changes that have taken place in the rural setting under the pre-liberalization, liberalization and post-liberalization eras, at the analytical level, liberalization cannot be stated to be the cause of these changes *per se*. While it is possible to match changes in policy with changes in economic variables, the causality remains an empirical issue.

Manifestations of economic reforms and reshaping of the rural economies

While the vulnerable groups are those losing their livelihoods due to economic reforms, they are distributed within the country irrespective of the production potential of the regions. These are characterized by declining agricultural revenues which lead to declining education and health levels, declining food security and increasing poverty. It is shown that different regions exhibit varying levels of poverty that is consistent with the loss in agricultural income of the main agricultural products especially export crops.

The government has initiated several programs and policies to reverse these trends. These efforts include The Poverty Reduction Strategy Paper (PRSP) (2001) and the Economic Recovery Strategy for Wealth and Employment Creation (2003) that spells out strategies for rural economy

reconstruction focusing on sectors that have a direct impact on the rural economy through industrialization, employment creation and decentralization of social infrastructure and services. Other strategies include The Ministry of Livestock and Fisheries Development Strategic Plan 2003 – 2007, Strategy for Revitalizing Agriculture, 2004 – 2014, The National Development Plan (NDP), 2002-2008, and the Ministry of Agriculture Strategic Plan (2006-2010) that all seek to address the ailing agricultural sector.

This study was carried out to elicit the structural implications of economic liberalization on agriculture and rural development. Several outcomes and challenges were identified apart from tracing agricultural policy evolution.

While economic growth declined, the population increased over the reform period. The population increase continued to exert pressure on natural resources so agricultural performance, and subsequently household incomes, deteriorated. Increasing urbanization, internal and external migrations and the corresponding rural depopulation and human capital depletion pose new challenges.

Liberalization of markets has stimulated wide interest and encouraged the entry of many players from different channels. While this is seen as enhancing market efficiency, the problem of enforcing food safety and the maintenance of quality standards is creeping into the system. Exit of players from the channels has led to concentration in the market and requires the development of contract farming and adherence to business ethics. Structures for competitive and ethical behavior of economic agents have to be developed.

Segmentation initiated during the settler period has been perpetuated by the reforms. This can be witnessed in view of agricultural production that is shaped

by regional climatic conditions and public infrastructure investments. New livelihood strategies, especially the non-farm activities have emerged due to declining farm revenue emanating from declining land and labor productivity, farm sizes and arable land per capita.

Vulnerable groups are distributed all over the country and their livelihoods are at stake due to the economic changes. Loss of these livelihoods is perpetuated by a decline in agricultural income triggered by increasing input prices and declining per unit output. This has forced rural households to venture into alternative agricultural and non-agricultural enterprises. Rural economies are currently reshaping under the thrust of migration, remittances and the development of non-farm activities. The new configuration is being dictated by government expenditure on agriculture and investment choices for domestic and international remittances.

MADAGASCAR REPORT

Alain Pierre Bernard., Rivo Ramboarison.,
Lalaina Randrianarison, Lydia Rondro-
Harisoa, January. 2007, 168p.

Rice always at the core of Madagascar's society and agricultural policies

In order to fully grasp the structural changes in Madagascar's agriculture, it is necessary to understand the role that rice has played in the country's economy. Since the reign of King Andrianampoinimerina, who developed the Antananarivo plains at the end of the 18th century, the history of Madagascar and of the Malagasy society and economy have been closely linked to the cultivation of this grain. Rice has always been and still is at the core of agricultural and development policies in Madagascar. Examples to support this statement include the creation of the large irrigated farm areas in the 1950s, the rice productivity operations of the First Republic, and the nationalizations during the socialist period.

Consequently, throughout history, rice cultivation has shaped the country and its farmers. Today, 87 % of farms and 60 % of crop acreage are involved in rice production. The dominant position of rice explains why the GDP structure has not changed over the last 30 years. The agricultural sector still accounts for 35 % of the country's wealth, and the GDP trend is greatly influenced by the development of the agricultural sector. The rice sub-sector is therefore still one of the key engines of Madagascar's economy. However, Madagascar has a wide range of temperate or tropical products, intended mainly for the local and national markets which also structure the agricultural landscape.

Liberalization has changed the operation of markets after a period of nationalization and state intervention

While successive agricultural and rural development policies have contributed to establishing the predominance of rice, other products have benefited from state support during colonization and the First Republic, particularly traditional export products (coffee, spices, lychee, etc.). Above all, the agricultural sector was shaped greatly by the socialist period. Nationalizations and state intervention between 1975 and 1986 often had negative impacts on the production and marketing of many agricultural products. These impacts are still there for some sub-sectors such as sugar, which is being privatized, and cotton, which was recently privatized.

State divestiture and liberalization of trade initiated under the structural adjustment plans, as well as deeper integration into the world economy since the 1980s, have had very significant consequences on the operation of markets and strategies of agricultural sub-sectors, without challenging the predominance of rice. Have these changes to the economic and institutional environment, as suggested by the assumptions underlying the study, led to greater integration of the sub-sectors and segmentation of markets?

Prices determined more by the markets

Before the period of structural adjustment and gradual liberalization were initiated in the mid-1980s, markets for basic agricultural products were subject to direct state intervention. Producer prices were the same throughout the country, and marketing operations were fairly simple, with a limited number of actors. Today, most of the sub-sectors have been privatized, and prices are now fixed by the forces of demand and supply with, for some sub-sectors, a strong influence from

world prices (cotton, sugar, coffee, and rice).

With the existence of residual public monopolies (sugar, chewing tobacco) or private pseudo-monopolies and oligopolies (cotton, smoking tobacco, or milk), producers are still forced to accept purchase prices (sugar, cotton, green beans, milk in some cases), while the prices of agricultural products are generally variable and change according to seasons (rice, maize). For the same product, the prices can also vary considerably depending on the production area, the degree of inaccessibility to the area, and the existence or lack of dominant marketing positions.

Evolution of key sub-sectors

As in many other countries, the liberalization of the market has led to the emergence of several types of marketing channels and an increased number of actors. The number of middlemen between the producers and the final consumers, have increased; the rice sub-sector serves as a good example. This situation has a significant impact on the structure of the sub-sector, distribution of the value of the product, and pricing. For some sub-sectors, such as vanilla or lychee, supervision is exercised by professional bodies in consultation with the state. Depending on the level of connection with the local or world market, adjustments of the sub-sectors to new economic constraints are diverse as shown by the examples analyzed in the report:

The rice sub-sector, which is the pillar of Madagascar's economy, remains a strategic sector for the state. It is marked by high atomization of agricultural production (the average farm size is less than 1 ha, and rice farmers are generally versatile), high concentration of wholesale marketing and imports, and a more competitive processing structure. There

is some degree of integration since some rice industrialists have contractual relations with rice farmers who supply them with rice.

Despite price liberalization and privatization of production and marketing, state intervention is frequent (tax policy, building of stocks, price regulation, import operations, etc.). However, economic relations between agents depend on the market, which is more or less competitive depending on the situation. Since 2004, there is also a consultation platform involving all the stakeholders of the sub-sector and the state.

While liberalization and state divestiture have led to a higher number of actors in marketing, they have not had the expected impacts on rice production. The price of paddy rice has remained too low to act as incentive for farmers to increase production. Production has remained very traditional, with little use of inputs, and its increase is mainly due to extension of crop areas. The reduced size of parcels as a result of population growth and transmission of lands does not really encourage farmers to take risks. The 2004 crisis, which led to sharp increase in the price of paddy rice, had an incentive impact and producers increased crop areas, and in certain cases, intensified production.

The price of local rice, and therefore the price of paddy rice, depends on world prices. Today, producers are benefiting from the high world prices which enable them to be competitive. However, it should be noted there is not only one rice price, but several rice prices in Madagascar, depending on its variety, the season (pre-harvest gap or harvest), as well as the inaccessibility of the production or consumption area, and organization of the marketing network.

The key challenge facing this sub-sector in coming years is to rapidly achieve food

self-sufficiency and position itself on the rice world market, by making efforts towards quality and competitiveness. Some big rice industrialists have already positioned themselves within this perspective.

The sugar sub-sector, which still has a public operator, is being privatized. It is concentrated as there are only two sugar cane processing companies, and organized in two ways: integration and contractualization between sugar cane producers and SIRAMA (Siramamy Malagasy, a public processing enterprise) and production under state control for SUCOMA (“Sucre Complant de Madagascar”, a private enterprise). The crisis in the sub-sector shows the inadequacies of public management, whereas SIRAMA has benefited from guaranteed export quotas to European and American markets at prices higher than the world price, for a long time; indeed, this advantage ought to have fostered its development. The imminent privatization of SIRAMA should, in the short term, change the evolution of the sub-sector, with the development of bio-fuel production.

The cotton sub-sector was privatized recently (2004). It is a historically integrated sub-sector which has benefited from significant state support and was privatized in 2004. The state monopoly has been replaced by private monopoly. The health of the sector depends very much on world prices. Following the sharp decline in prices, the cotton sub-sector in Madagascar, as in most African cotton producing countries, experienced a very difficult period, leading to a sharp decline in production in the early 2000s. Under privatization, “HASYMA-Dagris” made huge investments to boost production and improve the quality of cotton produced, and their initial effects are being felt. Downstream, there are only two mills,

even though the textile sector is very developed and export-oriented. In 2004, fiber production was estimated at 4,545 tons, with 2,400 tons for the local market, whereas domestic demand was estimated at 27,500 tons. To support the recovery of the sub-sector and in collaboration with the private sector, Madagascar has established a cotton-textile consultation platform aimed at finalizing an Action Plan that can receive support from EU-Africa partnership on cotton.

- The milk sub-sector is much more atomized upstream with a relatively low average productivity and problems of quality of the milk produced. Most of the output is for home-consumption, and a small part is processed. The milk sub-sector is relatively segmented, and most of the milk is sold fresh to consumers. There are also many small processing plants. On the other hand, the industrial segment is relatively concentrated, with two processing companies (TIKO and SOCOLAIT) established in the 1980s, following privatization of SMPL for SOCOLAIT. It is one of the rare sub-sectors with such a processing level. The sub-sector is partly integrated, because the industrialists have cattle but also receive supplies from stockbreeders’ organizations to which they provide guidance and inputs.

Although the per capita consumption is extremely low, milk production has always been unable to meet demand, leading to considerable imports of powder milk by the two industrial companies. However, the protection of processed products offers enough guarantees for the development of production with high added value. The price of milk is determined freely, but in reality it is highly influenced by the purchase price paid by TIKO Company in the milk triangle (Antananarivo region).

Lychee has become a flagship of Madagascar’s exports to European

markets. Production employs nearly 2.5 million rural people each season on the East coast of the island, and is mainly through harvesting. About 30 lychee exporters operate in the Main Island for a few European importers who fix the price of lychee; it is therefore a sub-sector that is relatively concentrated downstream. With the development of standards (for example, Eurepgap) and the establishment of traceability in Europe, the quality of products is today the major challenge for development, and even the future of the sub-sector. To meet these expectations with respect to quality, the sub-sector is being organized (creation of a consultation platform) and is receiving significant technical support. Today, some enterprises have created orchards to facilitate standardization, rendered difficult by harvesting.

The shrimp sub-sector is segmented, since there is a traditional fishing sub-sector, an industrial fishing sub-sector, and an aquaculture sub-sector. However, the different segments are connected. Industrial fishing and aquaculture are very concentrated sectors. The sector has developed towards integration of traditional fishing into the supply channels of industrial enterprises, which alone have access to export markets. Diversification of fishing to aquaculture is a guarantee for sustainability of the sub-sector. Furthermore, Madagascar's shrimp occupies a very good position among high quality products on the world market. One of the driving forces in the organization of this export-oriented sub-sector is compliance with standards. All the industrial enterprises comply with HACCP standards to meet the expectations of consumers, particularly European consumers.

For the last two export-oriented sub-sectors, quality is a major challenge. Compliance with standards may be a

constraint for producers and exporters who do not often have the facilities or technical capacity to meet the requirements of international markets (cf. the European embargo on animal products since August 1997 following a negative health evaluation). Compliance with standards may be an advantage in comparison with less organized competitors.

In Madagascar, contractual agriculture is still not well developed, except for a few historical products such as sugar or cotton. The green bean sub-sector, which is export-oriented, is a limited example of successful contractual agriculture, based on efforts towards quality. The green bean sub-sector is segmented, made up of a traditional sub-sector for the local market and a completely integrated export sub-sector. Lecofruit Company, which concludes contracts with producers on the basis of pre-fixed prices and specifications, provides the required inputs and technical supervisions. It has been certified by HACCP, and exports beans in cans under contract with a European partner (Maille).

An analysis of these different sub-sectors shows that ongoing trends vary, depending on the region and the product. However, market differentiation and segmentation factors can be identified in terms of accessibility (existence or not of marketing facilities) and the final destination of the products: almost exclusively local market (cassava, most fruits and vegetables, tubers and legumes, dairy products, flour, and meat), exports (vanilla, spices, essential oils, lychee, and shrimp), or dual, for the local market and for export (sugar, maize, cotton, coffee and, to a lesser extent, rice). Connection with the international market, with regard to export products or local products competing with imports, calls for adjustments in terms of quality and standards.

An undeveloped agro-industrial sector

Despite the wide variety of products which offer processing opportunities, the agro-industrial sector is astonishingly underdeveloped. The atomization of production, dispersal over a large territory with limited local output and often difficult marketing conditions make it difficult to obtain economies of scale. Great variability of volume and quality is another constraint on processing.

Despite the existing potential, agro-industry concerns only a few sub-sectors, and accounts for only 0.3 % of the working population. The most developed processing sectors, such as dairy products, oils, flour or biscuits and confectionery obtain supplies mainly from imported products, and do not include or include only a little local products. Agro-industrial production, based on local products, include sugar, tobacco, cotton, brewery, chocolate factories and canning of sea products.

Development of mass marketing

In Madagascar, most agricultural products are consumed locally (particularly food crops, and primarily rice), and sold in rural and urban markets. Since the liberalization of the economy, supermarkets are participating in marketing. Three groups, linked to international mass marketing, share the market: the South African chain “Shoprite”, located in Madagascar since 1992, after buying “Champion” shops, the French chain “Leaderprice”, and “Score” supermarkets of Vindémia Company, a subsidiary of the French group “Casino”. However, mass marketing is still concentrated only the big towns: Antananarivo, Antsirabe, and Toamasina.

While in some countries the establishment of supermarkets has promoted the development of contractual agriculture, this is not yet the case in Madagascar. Indeed, their local purchase strategy does

not attach importance to quality as is the case, for example, in Europe. Furthermore, in view of their rather recent development and the persistence of small retail companies, supermarkets could be estimated to handle only a limited part of the marketing of fresh products. On the other hand, they play an important and growing role in the marketing of imported agrifood products.

Agriculture that remains traditional and with low production

While state intervention has not always provided effective access for all producers to factors of production, its divestiture, sometimes only partial, has not improved the situation. Consequently, Madagascar’s agriculture is generally traditional, not intensive, not mechanized, while using relatively small amounts of inputs. The reduced farm size certainly worsens the low degree of intensification, which is a strategy to minimize risks:

With regard to fertilizers (but it is also true for phyto-sanitary products), the quantity used is very low and the imports, compared to the area sown, have virtually stagnated since 1972. As a result of ignorance, difficulties of access or uncertainties about its technical or economic effectiveness, manure is not frequently used. The high prices of imported fertilizers, especially when compared to paddy rice price trends, and the obstacles to the creation of a competitive fertilizers market, do not encourage farmers to use them; 55 % of the farms do not use fertilizers.

Mechanization is also very low, and a large majority of farmers continue to use only “angady” (spade). Here again, the reduced farm size does not encourage investment in the purchase of agricultural equipment.

Seed production has not yet been privatized, and improved seeds are not

widely used by farmers. The reasons include: preference for traditional seeds, inadequate domestic production, problems of quality, certification and control, little commercial dynamism of multiplication centers, etc.

Access to land is a major obstacle to improvement of agricultural productivity. The technical and financial possibilities of the administration to satisfy demand for recognition of land rights are largely inadequate, creating potential situations of insecurity and conflict. The lack-of-land certificates penalizes farmers in their efforts to obtain loans, and therefore to make investments. Wide expanses of uninhabited and uncultivated lands coexist in the country with regions where anthropogenic pressure has led to fragmentation of farms and adoption of survival strategies. Land reform, which is underway, aims at securing farms at lower cost and within a fairly short time. If the reform is properly implemented, it will revolutionize the development of the agricultural sector.

Apart from the factors presented above, the limited use of inputs is also due to low rural credit and virtual absence of agricultural services:

Microfinance has been developing in Madagascar since 1990 to remedy the inadequacies of the banking system in rural areas. However, the overall amount of rural loans is still low. These loans come mainly from decentralized financial systems and, in most cases, from credit unions. Despite a high demand for loans, which is still largely satisfied by informal financing at very high interest rates, the penetration rate of rural financial services did not exceed 5 %-6 % of households in 2005. Furthermore, the rates charged by microfinance institutions (MFI) are relatively high (close to a nominal rate of 36 % per year).

Recently, banking institutions have been increasingly interested in microfinance, and the products proposed by development partners are also increasing. Since 2006, the government has, with the support of donors, been engaged in an interest rate reduction program for loans. Lastly, one of the main obstacles to loans is inadequate land security, which limits the development of credit. The ongoing reform should contribute to overcoming this constraint.

Until the end of the 1970s, agricultural extension services were provided by the government, without, however, meeting the needs of producers. The mixed results of the National Agricultural Extension Program in the 1990s marked the start of a period of state divestiture, replaced more or less by NGOs, projects or local administrative services with limited financial and human resources for operation. The lack of technical support is one of the causes of low productivity of Madagascar's agriculture. The needs today are considerable. Recently, several initiatives taken by the state and donors are aimed at meeting the needs of the farmers: creation of Chambers of Agriculture and establishment of Agricultural Services Centers and Agriculture Business Centers.

Consequently, liberalization has not specifically contributed to improving the productivity of farms. The yields for major crops have increased little, and remain very low. In 2005, the rice yields stood at 2.75 t/ha, for maize 1t/ha, and for groundnut 0.72 t/ha.

Diminishing portion of agricultural products in Madagascar's trade

The trade liberalization, accompanying the development of Madagascar's agricultural sub-sectors, has led to a sharp decline in agricultural exports, while food imports have continued to increase.

Indeed, Madagascar has concluded or is committed to different multilateral, bilateral and regional trade agreements, which have, on the whole, worsened trade deficits. Between 1984 and 2005, exports more than doubled, while imports tripled. Consequently, the trade balance, which already showed a deficit of USD 74 million in 1984, worsened to a deficit of USD 701 million in 2005.

With regard to agricultural products, their share of total exports has declined over the past ten years, from 62 % in 1995 to 34 % in 2005. In absolute value, agricultural exports declined from USD 316 million to USD 286 millions. This trend is due to the growth of non-agricultural exports over the period, especially clothing textile, as a result of the development of free trade areas. The decline in agricultural exports is also due to a drop in the production of some key products, in particular coffee, which fell from 22 % of exports in 1995 to 1 % in 2005, as a result of the fall in world prices that completely destroyed domestic production. The situation is the same for sugar exports which, despite quotas on European and American markets, declined from 90,000 tons in 1995 to 25,000 tons in 2003. Lastly, it should be noted that some agricultural exports, such as vanilla and clove, have very volatile prices with direct impact on the amount of harvesting.

The relative share of food imports has remained stable (12 % in 1995 and 11 % in 2005), and Madagascar still records significant deficits in rice, sugar, wheat, flour, edible oil and dairy products.

Indeed, the opening up of markets has not significantly improved Madagascar's agricultural and agrifood exports. Since the agricultural sector is one of the main sources of foreign exchange for country, this situation has weakened the national currency over the past few years. Despite the existence of growth-oriented

preferential markets (Europe, USA, COMESA, and IOC), Madagascar has not been able to seize the opportunities offered to its agriculture: exports have concentrated on a few products and markets, and only a few products are processed.

Farms adapting to an increasingly difficult context

Increase in crop areas but reduction in average size

To date, the majority of new entrants in the labor market have been employed by the agricultural sector, following the creation of new farms. This trend has been spectacular, since nearly one million new farms have created in ten years, between 1985 and 2005. The growth in production stems from an increase in the crop areas, rather than intensification, especially as yields have not increased.

There is also gradual reduction in farm size, which shows that the absorptive capacity saturation point for the rural population, particularly the most densely populated areas, has been reached. Consequently, there are current growing trends in land saturation. In 20 years, the total farm area has increased by 19 %, with an annual increase rate (0.86 %) much lower than the annual increase rate of the agricultural population (3.2 %) and number of farms (3.3 %). Consequently, the average farm size reduced from 1.2 ha/farm in 1984-85 to 0.86 ha/farm in 2004-05, with a reduction of nearly 30 % in 20 years.

Diversification and pluriactivity to limit risks and improve viability

In addition to climate-related risks in a region subject to cyclones, the farmers face difficulties in having access to markets of factors of production (inputs, loans, equipment, and agricultural services),

which have hardly improved with state divestiture. Access to loans has been made difficult by the lack-of-land certificates, thereby limiting the investments required to improve production and increase incomes.

To adapt to this difficult situation within a context of land tension and maintain the viability of their farms, farmers have had to develop adaptation strategies, particularly diversification of products and development of pluriactivity. This is aimed at spreading the risk over several products, by increasing the number of products or implementing several crop cycles, or diversifying sources of income. Additional activities at the local level include: handicraft, brick production, production of charcoal, small-scale transport services, and paid agricultural labor. Some farmers do not hesitate to temporarily emigrate to other agricultural regions depending on the crop cycle or to the towns. However, in some critical cases, the poorest farmers are forced to give over their farms, and become tenant farmers or paid laborers.

In terms of differentiation, several factors of division can be noted:

Regional differentiation, due to the presence of natural resources in each region and exposure to unstable climatic conditions.

Differentiation between producers according to:

(i) their extent of diversification: Accordingly, the purchasing power of farmers who diversified was less affected than that of producers specialized in rice, who suffered from stagnation of the actual selling price of paddy rice and increase in the prices of staple products;

(ii) their participation in structured sub-sectors that help to secure the sale of products (contracts with processing, export

or large surface companies): capacity for compliance with standards is therefore a distinguishing factor;

(iii) their accessibility to markets: in inaccessible areas, producers are in a precarious situation because of the low selling price of products and difficult access to basic services.

Significant risks of impasses

In addition to an overview of Madagascar's agriculture and an analysis of ongoing adaptation efforts in the major sub-sectors and in farms, the study identified a number of critical points and key issues, which will be either open or closed doors for the future, depending on the nature of answers that will be provided.

A key demographic factor

Due mainly to the role of rice in the economy and society, Madagascar has remained and should still remain for many years, a rural country. The urbanization rate is low (less than 30 % in 2005, with 12 % in Antananarivo), and should remain low in the next two decades (40 % in 2030).

Madagascar is not a heavily populated country (nearly 18 millions inhabitants in 2006), for a country the size of the sum of that of France and Belgium. However, it has a high population growth rate. Its population has been multiplied by 3.8 in 50 years (1950-2000) and, even if the population rate drops, Madagascar's population should continue to grow to 45 million inhabitants in 2050. One of the challenges for Madagascar and its agriculture will therefore be to meet the food requirements of this fast growing population, thereby underscoring the predominant role of rice in agriculture and the economy.

Last but not the least Madagascar's population is very young, since 56 % of the population in 2004 was less than 20 years old. This population, most of whom live in rural areas, is poor (78 % of farmers) and often uneducated.

Absorption of cohorts into the labor market

The major challenge is undoubtedly the massive arrival of new people on the labor market over the past many years. Currently, 300,000 youths join the working population each year. They will be more than 600,000 per year in 2030. These are mainly rural youths who are often uneducated. To date, the agricultural sector absorbs most of this inflow of labor, but can this continue for a long time? However, apart from agriculture, the absorptive capacity of the economy is very limited. For example, the textile and tourism sectors, which appear as expanding and reference sectors of Madagascar's economy, are likely to absorb 43,000 additional workers at best per year in the next few years.

The risk of land saturation and pressure on natural resources

So far, population growth has been absorbed without many problems by the agricultural sector as a result of the development of new arable land, mainly rice farms. However, it is clear that the land has begun to be saturated, particularly in the densely populated areas, leading to significant reduction of the average farm size and increased rural poverty. This tension is further compounded by the low propensity to emigrate because of strong attachment to the land, many insecurity problems (land and social), as well as the lack of a real migration policy. Within such a context, farmers continue to use traditional farming systems (slash and burn cultivation), leading to very rapid environmental degradation.

Increasingly uncertain viability of farms and the risk of impoverishment of the rural population

Limited access to means of production as a result of incomplete factor markets and the predominance of traditional production methods have led to stagnation of productivity.

This low productivity, coupled with the reduced farm size, jeopardizes the viability of many farms in Madagascar. In addition to the fragmentation of farms and low yields, the related price trends have not been favorable. As a result of liberalization, even though the prices of agricultural products have increased, inflation, increase in the prices of inputs and the emergence of multiple middlemen have reduced the room for maneuver. At the structural level, incomes have declined, and only a few specialized rice farmers saw an increase in their incomes in 2004-2005. Such a situation, if it worsens, will impede achievement of the objectives of poverty reduction, which concern farmers more than the other socio-economic groups.

In addition, the predominance of rice can also be an aggravating factor and impede the development of the agricultural and agrifood sector. Indeed, since rice is the staple food, farmers adopt a rational strategy and prefer to produce it themselves rather than having to buy it at unstable prices. Consequently, agriculture is being oriented towards self-subsistence, with limited connection to the market and very low productivity levels.

Increasing competition of imports and for exports

Another constraint on Madagascar's agriculture is the increased liberalization of its markets. Rapid exposure of its market or the regional market can lead to increased competition with products from

developed countries or emerging developing countries, which have obvious advantages in terms of facilities, research, financing support and sometimes significant support to production and export of products that in Madagascar do not benefit from any of these advantages, with the exception of cheap labor. This could be case of products from SADC and, in particular South Africa or Europe.

Concurrently, this generalized opening-up of the markets has resulted in increased competition on traditional preferential markets (Europe) with more competitive countries (Latin America and Asia in particular), with which competition in quality and compliance with standards is increasing.

Ongoing adaptation measures and solutions being implemented

To meet these challenges, adaptation measures are already underway and solutions are being implemented. These trends will be confirmed in the second phase of the study.

Adaptation measures in farms

At the farm-level, the diversification of crops, increasing use of paid workers, and the development of non-agricultural activities contribute to the emergence of pluriactivity systems. This trend is accompanied by greater mobility, which reinforces the impacts of urban/rural links and contributes to boosting secondary centers.

Sub-sectors being structured, and improvement of the operation of markets

Concerning the sub-sectors, inter professional organizations and consultation platforms are being established to solve upgrading problems (compliance with standards, promotion of labels, evaluation

of import or export volumes, etc.).

As for the operation of markets, it has started improving, with the establishment of market information systems (Rice Observatory) which contribute to better integration of the domestic market, and incidentally, to stabilization and understanding of market mechanisms.

With respect to public institutions, a vast project is also underway, with the overhauling of the missions of public administrative services, as well as transfer of operational tasks to the communal and regional levels, through de concentration of sectoral ministries and decentralization.

Development of internal and external migration

Since the urban labor market, which is often too demanding with respect to skills, will be not be able to absorb all the youths entering the labor market, the problem of accompanying inter-regional and rural-rural migrations to potential rural areas will certainly be very important in the medium-term. It should be noted that Madagascar still has large uncultivated arable land. The development of secondary towns will also be a key factor.

This aspect concerns the territorial development policy, and goes well beyond the agricultural sector alone. Within this context, land reform will certainly be a key tool. These temporary or other migrations should lead to an increase in the labor absorbed by the informal sector, which is still difficult to estimate.

Lastly, as a result of Madagascar's adhesion to various trade agreements (SADC, COMESA, IOC, and WTO), international migrations in the sub-region or elsewhere could also be a way out. However, this would concern only a tiny part of the population. Indeed, there are opportunities, such as facility to enter

South Africa and Mauritius, which seek labor. However, there are still constraints: language barrier, inadequate financial resources to cover travel and installation expenses, as well as risk and adventure aversion.

Establishment of growth poles and agro-technopoles, and political will for market-oriented agriculture

Under the decentralization policy, the development of growth poles, agro-technopoles and agricultural investment areas should be a driving factor to boost the openly market-oriented agriculture. This concerns, in particular, developing agricultural and agro-industrial activities through “support to growth-oriented sub-sectors” determined by the regions themselves.

These initiatives fall within the Madagascar 2007-2012 Action Plan (MAP), which lays emphasis on the agricultural sector strategic plan and defines the sectoral growth objectives in terms of the development of production, as well as the development of agro-industry. The Action Plan also lays emphasis on the key role of agro-industry as a driving force for production, be it agricultural or fisheries production, or livestock development for the domestic, regional and international markets. Such political will should contribute to attracting potential investors, lacking in this sector in Madagascar.

Development of exports in opening up to regional and international markets

Opening up to regional and international markets offers serious opportunities for Madagascar’s agricultural and agrifood products (COMESA, SADC, IOC, APE, and WTO), on condition that significant efforts are made in the area of standards, quality and vocational training for farmers and investors.

Accordingly, the preparation of the SADC Regional Integration Agreement has enticed the expectations of Madagascar’s operators. The prospect of privileged access to a market of more than 200 million consumers is an attractive opportunity. The major exports (vanilla, shrimp, clove, essential oils, coffee, cocoa, sugar and cotton) should continue to be oriented towards the markets of developed countries, although there will probably be a space for products currently exported in small quantities, such as fruits and vegetables (potatoes, tomatoes, onion, and melon), maize, which is the main food crop of Southern Africa, and even rice.

MALI REPORT

Amadou Samake, Jean-François Belières, Bino Teme, Ousmane Sanogo, Manda Sadio Keita, Aly Ahamadou, Kako Nubukpo, El Hadj Oumar Tall, Bakary S. Coulibaly, July 2007, 206p.

Mali is a large country with a long history in West Africa. Since the 4th century, the presence of great empires and kingdoms has shaped the social groups which occupy the country today. Over and above this diversity, present-day Mali is a peaceful country which is politically stable, with unquestionable national unity, and which for the past fifteen years has been undergoing a democratic process that is a benchmark in Africa.

Population Growth, Urbanization and Poverty

Mali has a very high population growth rate, with an average rate of 2.56 % over the 1961-2004 period, coupled with a high urbanization rate. In 2004, the population of Mali was estimated to be 11.42 million inhabitants, 69 % of whom live in rural areas and 31 % in urban areas. The urban population recorded an annual increase of 4.6 % from 1961 to 2004.

In 1956, towards independence, Mali was barely urbanized, with only 1.8 % of the population living in towns of 20 000 or more inhabitants; no town in Mali had a population of 100 000 inhabitants. In 1961, the country's population was in the proportion of about 8 inhabitants in rural areas to only 1 in urban areas; the domestic market for food products was therefore very narrow. In 2004, there were about 2.25 inhabitants in rural areas to 1 in urban areas. These figures show a profound change in the functioning of the Malian society, with the creation of a growing urban domestic market, even though it is

limited by the 10 % "urban farmers" (cf. infra). The market was to grow in the future.

Demographic challenges are crucial for Mali. Around 345,000 people are expected to be yearly integrated to the economic activities in 2025, including 85 000 people in rural areas and 260 000 people in urban areas. Before that, the annual number of people to be economically and socially integrated will be between 50 and 90 000 people in rural areas and between 100 and 260 000 people in urban areas.

Mali is one of the heavily indebted poor countries and is one of the countries with the poorest HDI ranking. Poverty is a major factor throughout the country, even though there are disparities between urban and rural areas in terms of incomes so the farmers' "wealth" in the cotton growing zones should be seriously called into question. Available data show that income levels for the main jobs are generally very low; for 46 % of the population, it is below CFAF 24 700 each month, while the average monthly income is CFAF 35 000 with a high concentration towards the low incomes. Only 6 % of the employed working population earn more than CFAF 84 000 per month throughout the country (OEF, 2004). For comparison purposes, in the cotton-growing zones which are considered privileged areas, the income (including home consumption) per person and per year is between CFAF 50 000 and CFAF 80 000 (2003-04) depending on the type of farm considered, while the poverty line (CSCR, 2006) in 2005 was CFAF 153 000 per person per year. The "richest" cotton farms therefore have incomes that are barely 50 % of the poverty line.

At a time when internal migration, between the regions, occurs frequently and contributes to the intermixing of the Malian population, emigration outside the country has been adopted as a strategy by

many Malians. It is certainly impossible to know the exact figure, but some sources estimate it at nearly 25 % of the current population, that is between 3 and 4 million nationals. This population, made up mainly of young men, leave some rural areas that suffer from labor power deficit, a deficit which should be viewed in relative terms since these departures are due to the limited possibilities and prospects offered by the local economy.

Permanent Factors and Changes in Economic Structures

The independence of Mali, in 1960, did not fundamentally change the major economic policies of the colonial period despite the change that could be brought about by the choice of planned economy and reorientation of trade in favor of socialist countries. The options adopted were never as radical as the speeches, and they soon turned out to be reversible. The ties with the former colonial masters and beyond that, with the countries of the European Union, soon became dominant even though Mali maintained special relations with some of the countries which accompanied it during the early stages of its independence.

After periods of stagnation, Mali has recorded a good level of growth since the early 1990s. From 1994 to 2004, after the devaluation, Mali was the WAEMU country with the highest growth (5.7 % real GDP growth per year), and it had a longer period of sustained economic growth than the average of WAEMU countries (whose growth recorded a sharp decline after 1996). This led to gradual increase of the per capita GDP in Mali by more than 3 % per year on average after 1994, following a decline in the early 80s – higher than the population growth, which ranged from 2.4 to 2.7 % per year (World Bank, 2006)

In the long term, the Malian economy shows great stability in its productive structure with the predominance of the primary sector which employs more than 80 % of the working population and which contributes nearly 45 % to the country's GDP. This structural characteristic is seen in the composition of its exports made up almost entirely of raw or barely processed products. The polarization of trade is also very stable with two great regional economic sub-entities as the main trade partners: Europe and the WAEMU countries into which Mali is integrated. However, the stability of this polarization conceals a high diversification of trade partners within these two sub-entities and the emergence of new polarities with Asia, South Africa, and America.

However, the economic structure of trade is very fragile. Malian exports are based on a small number of products, which makes the country's economic structure susceptible to external shocks. This sensitivity affects a very large proportion of the Malian population because the two major exports are agricultural products (animal products and cotton) which directly or indirectly affect a very large proportion of the population (more than 3 million people for cotton); gold is an exception because its spill-over effects on the direct incomes of households remains limited.

Like many countries with major structural imbalances, Mali in the 1980s embarked on the liberalization of its economy which had been controlled, planned and administered by the state with a large number of nationalized companies in all the sectors. The case of agriculture is somewhat special since the private sector – based on family organization of work and production – has never really been called into question as was the case, for example, in Guinea. During that period, the state had firm control over the agricultural sector

through supervision and control of trade. The other forms of organization of agriculture are almost non-existent: agro-industry is limited to a few thousand hectares for sugar production, and integrated contractual agriculture is not represented in Mali.

Agriculture within the Malian Economy

Mali is essentially an agricultural country given that the population lives directly or indirectly on agricultural activities and the primary sector contributes significantly to the country's economy. From a GDP of about CFAF 2 500 billion at current prices, agriculture accounts for about CFAF 1 000 billion, remittances from emigrants about CFAF 100 billion, and external aid CFAF 150 billion.

Agriculture a key factor that determines the activities of nearly 80 % of the population: According to available information on the entire Malian agriculture (RGA, 2004), Mali has about 805 200 agricultural holdings with a population of 8.9 million people; this is 78 % of the national total of 11.42 million inhabitants and 69 % of the rural population. Accordingly, many people in urban areas, including Bamako, are also farmers. Mali has the peculiarity of a rapidly urbanizing population but whose links with farming remain strong, since about 10 % of the urban population could be considered as having farms and a large proportion of the urban population is migrants who settled only recently.

Out of approximately 800 000 agricultural holdings, a little less than 700 000 (86 %) engage in cropping activities, with an average cultivated area of 4.7 ha in 2004 or 0.43 ha per person; 100 000 agricultural holdings belong to strictly stockbreeders and fishermen.

While the proportion of agricultural products in exports has been declining

since the mid-1990s because of the development of gold production and export, agriculture nevertheless maintains a structurally key position within the Malian economy of about 45 % of GDP since independence.

This permanence of agriculture does not imply immobility within the sector because groundnuts have been replaced in exports by cotton, which accounted for 1 % of exports at independence and which reached between 40 and 50 % of exports in value between 1980 and 1995; cereal production coped well with the liberalization of the market, and livestock and animal products remain a stable and key component (around 30 % of primary GDP value) of the agricultural economy. Rain-fed cereals, rice and livestock account for nearly 60 % of the total primary GDP value, and cotton accounts for less than 10 %.

Since Mali's economic structure is not diversified, the secondary sector remains one of its weak points, and agricultural exports are almost raw products irrespective of the type of market (national, sub-regional or international).

The proportion of agrifood products in imports has remained stable since the end of the 1970s. Agriculture has therefore contributed strategically to the overall food security of Mali in urban and rural areas with the development of domestic markets and the dynamism of its economy through cotton and cattle exports. This limited diversification is also found with agricultural products, because while the range of possible products is broad in light of the agro-climatic potential and water resources of the country, diversification for domestic markets and exports still remains limited.

The proportion of food imports in the balance of trade does not show high growth of food dependence as was feared in the 1970s or 1980s. It seems to be

stable, and does not appear to follow a trend of high growth, which also implies that production and local markets (which have undergone reforms since the early 1980s) could provide supplies to the domestic market. However, the recent and rapid increase in rice imports since the early 2000s should be a cause for concern.

However, the real dynamism of the agricultural sector is based on a small number of primary products, which are marketed as raw products. Furthermore, with the case of cotton, there exists unfair competition with countries that receive significant public subsidies.

The Malian small-scale family agriculture

Agriculture in Mali is based on smallholders, with 68 % of the farms cultivating less than 5ha, 18 % with areas between 5 and 10 ha, and only 14 % with more than 10 ha. These farms are based on mixed cereal production and livestock; some farms in the North of the country are very highly specialized because of the Sahelian and sub-Saharan agro-climatic conditions.

Livestock is a key component of all the production systems, because it is present in 88 % of the farms with 43 % of the farms possessing less than 10 head of cattle. Unlike the land cattle is fairly concentrated since agricultural holdings with more than 20 animals are few (14 %) but have 53 % of the cattle population. The animals account for a capital of about CFAF 1,000 billion, which is equal to the annual agricultural GDP.

Cereals are the other structurally important component of farms because they occupy about 72 % of the cultivated area, while “industrial” crops occupy only 20 % of the area within which only cotton is significant with areas estimated at 500 000 ha, according to the sources. Approximately

200 000 farms grow cotton; about 3 million people live directly or indirectly on cotton.

On the whole, this small-scale agriculture has not intensified its practices, since only 2 % of the cereal-sowed areas use improved seeds, 26 % of the cultivated areas receive mineral supply, and only 28 % of the areas are cultivated with animal draught. For the rest, i.e. for the vast majority of small family farms in Mali, cultivation is manual without the use of conventional intensification factors. Since nearly 80 % of the areas under cereal cultivation are devoted to millet and sorghum which do not cope with intensification, the extensive practices have prevailed. The challenges for the intensification of cereal production remain unresolved, just as the challenges for the sustainability of cotton production, which faces stagnation and even decline in average yields.

Actual response capacity by food products to market signals

Since the gradual liberalization of the cereal market in the early 1980s, the agricultural structures have responded positively to market signals. This liberalization process corresponds to state divestiture from inefficiently-managed economic functions. It was envisaged right from the time it was designed as a series of economic measures accompanied by institutional changes and in the organization of stakeholders in the sector. It took 25 years and was managed by the public authorities in interaction with donors.

Areas under cereal cultivation and total production of cereals which had stagnated since independence, have multiplied by 1.8 and 2.3, respectively, between 1961-70 and 1995-2004. Rice and maize production has multiplied by 5 because of the increase in areas under cultivation and a sharp

increase in yields as a result of an increase in irrigated areas with complete water control and improved varieties of maize in rotation with cotton. Indeed, even though yields show a trend towards improvement, the improvement is rather limited. The production levels each year and the annual average yields depend on climatic conditions, showing the artificialization of the cultivated areas and the rather low intensification. Consequently, two phenomena seem to account for the improved availability of food products (cereals and groundnuts), namely the extension of areas under cereal cultivation (with limited intensification) and the supervised and managed liberalization of economic and institutional conditions for marketing.

Intensification capacities of production systems in special situations

The policies adopted since independence have continuously laid emphasis on the improvement of food security and development of monetary resources for the state through the development of exports. These policies were implemented in priority in two situations, with different characteristics: in the Sudanese zone with the development of cotton production as from 1964 entrusted to CMDT in 1974 and in the Sahelian zone with the boosting of rice production through a barely operational colonial scheme, the Office du Niger, which was restructured as from 1979. These two zones concentrated most of the public investments in agricultural and rural development: about 30 % of the farms concentrated about 70 % of the public investment.

The results are spectacular, and some people even talk of “white revolution” for cotton and “success story” in the intensification of rice cultivation in the case of the Office du Niger. The figures speak for themselves: cotton production

and areas under cotton cultivation as well as seed cotton production have multiplied 5 times since 1980 to between 500 and 600 000 tons in 2004-2006; rainy season rice yields have multiplied 3 times over the past 20 years [1987-2007] and currently stand around 6 tons per hectare. Much has been written on these clear success stories of Malian agriculture; these two experiences show the importance of combining price and non-price factors that could be considered as institutional and organizational factors: to react to the positive market signals (price factors) and initiate serious intensification, access to credit and equipment, securing markets, access to information and technical and economic advice are key factors. In the two situations, and under different institutional forms, these elements are present and combine to account for the success stories.

However, taking into account the overall diagnosis of the major agricultural trends, these success stories are based essentially (to a lesser extent, however, in the Office du Niger irrigation area) on the mobilization of “non-market” factors. This applies mainly to the use of fertility resulting from the extensive development of lands and natural resources which are still abundant but whose long-term abundance is uncertain (prospects of saturation of space not yet well known) as well as the conditions for maintaining the fertility of already developed lands (which are also not well known).

Threats to positive agricultural trends

Some indicators should be considered more closely, because while it is necessary to underscore and highlight the response capacities of Malian agriculture as assets for the future, it would be inconsistent at the end of this review not to indicate some worrying signals some of which are part of significant structural trends which

characterize Malian agriculture: (i) cereal intensification remains very limited in rain-fed cultivation and the variability of yields remains high, which is a feature of unstable and insecure technical systems; (ii) the average yields of seed cotton which have peaked around 1.3 t/ha have declined and are currently at their 1972-75 level; (iii) the cattle population is at a significant capitalization level, but this has not been put to use as yet; (iv) in the long term, primary products with low value added will continue to be marketed, and there is very limited diversification of agricultural products; (v) the development of structural inequalities between farms in the “modernization” zones; (vi) at the national level, continued high regional polarization of investment since independence in favor of the south zones and the Niger Authority zone.

Questions on the future role of agriculture in the Malian economy

In view of the general characteristics of Malian agriculture which we have indicated – importance of agriculture in the GDP and limited farm areas and areas for each worker – it seems that agriculture remains a key economic sector in the country’s economic prospects in the sub-region. However, if the current policies and trends continue without any major changes, it is unlikely that the sector will contribute significantly to resolving the population and economic problems posed by the arrival of contingents of 150 000 to 350 000 youths on the labor market each year. Indeed, it is likely – although there is no available data on this point – that the extension of farm areas under extensive cultivation will soon reach its limits. Furthermore, the current conventional intensification methods generate high structural inequalities and contribute somewhat to the exclusion and phasing out of agriculture. This seems to show that if agriculture will have a key role to play, it

cannot alone meet the population and economic challenge on the basis of only the current trends.

Structures and functioning of markets

Mali went through the first two decades of independence in an administered economy in which the major agricultural products were marketed by a state Authority (OPAM), and import/export was under the responsibility of a State corporation (SOMIEX). OPAM played a clearly disincentive role for cereals, which are the leading products of Mali. The recurrent food crises and droughts led to the liberalization of the sector in the early 1980s.

Cotton, one of the major sectors in Mali, is integrated and the State has played a key role in the promotion of the sector since 1964. The “Compagnie Malienne de Développement des Textiles” (CMDT) (Malian Textile Development Company) was later established in 1974. It was during this 30-year period that Mali became the leading cotton-producing African country with 600 000 tons of seed cotton.

Due to difficulties in its governance and under pressure from the donors, discussions on its privatization were held recently under the auspices of the Cotton Sector Restructuring Authority. The State intervenes not only as major shareholder of the company but also in the price determination mechanism, which brings together the producers, CMDT, and the State. The latter can decide to subsidize cotton through price determination.

The only other sector which is regulated is the sugar sector, which is an agro-industry with mixed capital (China and Mali) in which exporters are required to buy Malian sugar at a fixed price in proportion to the quantities imported.

The changes since 1980 mostly involve the

liberalization of the cereals sector under an assistance program supported by the donors, the PRMC with the gradual abolition of OPAM's role as direct actor of the market to enable it to refocus on its regulatory function. The process of State divestiture and liberalization of the cereals market is exemplary, because it was initiated at a time when Mali was experiencing food insufficiency. More than 25 years later, Mali is an exporting country in the sub-region today (even though this position remains fragile as shown by recent indicators).

The other major products for Mali, such as those from livestock, have never been controlled by the State.

Apart from cotton, there are no concentrated market structures except for a few big traders who intervene in an oligopsony on the cereal market as importers/exporters when Mali has a surplus. They were included in the reform process and benefited from support when necessary. Marketing is essentially based on atomized supply, and only about 20 % of the cereal production is marketed. The marketed quantities are low, and the daily marketing structures are based on a multitude of actors who are organized only a little or not at all. Mass or medium-scale distribution is very limited, and is found only in Bamako. These are groups, which have national coverage and are engaged in the import of food products. Some locally processed agrifood products of quality not comparable to imported products are also marketed in these networks, but the quantities are very limited. The development of these marketing channels is also limited because of the structural weakness of the purchasing power, including the urban environment.

Formulation of agricultural and rural development policies

Significant changes have taken place in Mali since the period 1960-1991, when democratic freedom was confiscated. The political transition from 1991 to 1992 ushered in a new period; the democratization process is in place, and is gradually being consolidated with the adoption of a new constitution, the introduction of the multiparty system, and the regular organization of democratic elections.

The democratic liberalization led to the development of new forms of organizing farmers through more autonomous methods than in the past. The most remarkable change took place in 1992 with the establishment of the Cotton and Food Producers Trade Union ("*Syndicat des Cotonniers et Vivriers du Mali*") (SYCOV), and a few years later with the Framers Trade Union of the Office du Niger ("*Syndicat des exploitants agricoles de l'Office du Niger*"), (SEXAGON). More generally, producer and rural organizations are structured at the national level; the "*Association des organisations paysannes et professionnelles du Mali*" (AOPP) is a very good example in this respect, extended later to the creation of "CNOP du Mali" and the development of consultation, representation and decision-making frameworks for agricultural development at various levels (sectoral, territorial and national). This situation of farmer and rural organizations is changing, and constantly adjusting to the changing contexts and under the influence of internal changes. Until recently, organization of the rural population was considered a sensitive subject, and the focus of attention for control by the political and administrative machinery.

The room for freedom and initiative for the farmers is not without risks, and while the

political and administrative control of the period of the single party have disappeared, there are other forms of destabilization or instrumentalization within a complex framework where the key actors tend to ignore long-term perspectives the agricultural sector so as to preserve some short-term interests.

These changes are part and parcel of the economic reform process initiated from the early 1980s; they constitute the institutional component that shows the empowerment of producers through their organizations in the governance of the agricultural and rural sectors.

In rural areas, the reforms should also take into account the emergence of local authorities, Councils, to which new responsibilities are entrusted, particularly with regards to land management, economic and local development, and management of natural resources. These responsibilities interfere directly with the management of agricultural affairs and, to some extent, determine the conditions of their viability.

Agricultural policies, as negotiated today, can no longer be considered to be actual negotiations with the producers and their organizations which was the case in the past. Whether it is a subject of the challenges of poverty reduction or sustainability of the performance of the cotton sector, producer organizations have to be involved: consultation, negotiation and coordination frameworks for better competitiveness and quality of products, as well as increase and greater stability of incomes. Building their capacities to discuss policy themes has become a challenge of national interest; their autonomy in reflection on these strategic topics is ever more indispensable to break away from practices inherited from the past. This challenge is not specific to Mali; it also concerns producer organizations in

the West African sub-region and other organizations in other continents. The case of the cotton sector and the preparation of the agricultural policy clearly demonstrate these challenges.

Return to the assumptions of the RuralStruc Program

An analysis of the role of agriculture in the country's economy brings us back to the assumptions in the RuralStruc program.

The issue of segmentation of agriculture and market structures

Mali is currently not affected by the major reconfiguration trends of the world agrifood system. It should be noted that the process is marked by "growing segmentation, not only of the agricultural production structures, but also of marketing, processing and distribution structures. This segmentation is portrayed simultaneously by the processes of concentration, polarization (with the emergence of two-tier agriculture), marginalization and exclusion".

In Mali, imports were kept within reasonable limits, which was rather remarkable, while the country was opening up to foreign trade, including the cereals market. This is certainly one of the great achievements of the period of State divestiture from economic activities in the cereal market, and trade-opening to the world market in this sub-sector.

Apart from the policy and management measures of the liberalization process which were initiated under the Restructuring of Cereal Market Program (PRMC), other factors helped to limit recourse to imports. Indeed, in Mali, consumption methods are based on the purchase of unprocessed products, carrying out most of the preparation in households, and recourse to a diffuse urban marketing system that mobilizes a large number of

semi-wholesale and retail actors. Purchases are fragmented, often from day to day because of the chronic and structural low incomes of the households. Furthermore, the urban population is sometimes engaged in agricultural production activities, and many urban dwellers maintain close ties with the rural areas, undertaking non-trade movements based on close social relations. The domestic markets are still rather limited by the overall low incomes, the high levels of home consumption, and deep involvement of town dwellers in the Malian agricultural sector.

Concerning agricultural production, there exist phenomena of social differentiation, and sometimes of land concentration in areas of relative intensification, which are causes for concern but which are not likely to jeopardize social peace at the moment. International agrifood mass and medium-scale distribution chains are not found in Mali, and the overall low incomes of the population, coupled with the landlocked position of the country, are certainly disincentive factors from their point of view. Nevertheless, there are some rare exceptions, like in the area of drinks, for example. However, recent trends, which show reduced availability of cereals per capita and sharp increase in rice imports since the early 2000s, are causes for concern. They could be indicating that the agricultural production system will soon reach its limits. These limits could concern the intensification processes, in terms of space in areas with high concentration of public investments. They could also concern the massive extension of cultivated areas under demographic pressure since the land reserves (unknown today) in the south of the country seem to be relatively limited in comparison to the population challenges.

However, the processes are still too new for there to be an analysis made of them so knowledge is still incomplete. They

currently form the new working assumptions.

In short, Mali is still unaffected by the world reconfiguration of agrifood systems because of its geographical position, its historical and political past which have shaped a specific integration into the national and regional markets, coupled with a competitive and dynamic integration into a small number of international markets.

This is certainly part of the reason for the stability and capacity of resilience of the Malian agricultural configuration, but it is also the source of its structural rigidity.

The issue of structural rigidity

In the case of Mali, it seems, indeed, possible to talk of a situation of structural rigidity. However, unlike what can be seen in Mexico, for example, it is not rooted in the liberalization of the agricultural sector. Several factors could account for the situation. They stem from our analysis of the economic and agricultural structure of Mali over a long period.

The first factor lies in the recent massive monetarization of the economy. The liberalization of the cereal markets is taking place within a context of low monetarization of the economy of rural households (1980s) with a high propensity for self-supply of food needs. This characteristic has remained for the most part even though in some zones (cotton and rice) and also in the North, money economy has developed more vigorously.

The landlocked position of Mali, the poor roads, communication and service infrastructures (electricity, cold) as well as the low level of urbanization, coupled with the narrow national market, are somehow a form of trade barrier to imports. These characteristics, coupled with the overall low incomes available for consumption

limit returns on foreign productive investments as regards supplies to the domestic market or positioning themselves on foreign markets.

Furthermore, the economy of Mali is currently still not diversified, with the primary sector accounting for nearly 50 % of GDP in the long term. The secondary sector is very weak, and the tertiary sector is still dominated by the State through service enterprises that create added value. The economy of Mali has continued to specialize in exports based on primary products, whereas the world economy has been restructured on the basis of manufactured goods from the secondary and tertiary sectors that had benefited from massive public and private investments (Asia or Latin America). On the other hand, the primary sector is based on a small number of raw products with little added value and low intrinsic value compared to agricultural products with higher market value, such as horticultural and market gardening products (fresh vegetables), short cycle animal products, milk or other processed products of animal origin. These products are not absent from Mali, but they are limited by the narrow market and the low investments, leading to poor downstream structuring of these sectors.

The history of the Malian economy and the above-mentioned rigidity factors keep the secondary sector undeveloped in the processing of agricultural products and in diversification, apart from the agrifood sector.

This situation stems from public policies based on development strategies that include economic diversification, recourse to external investments, with overall voluntarist public policies in the areas of education, training, infrastructures and private investment incentives. In a nutshell, what is needed here is the creation of new

competitive benefits, and this process does not concern only the agricultural sector, even though it should be given the deserved priority.

Reorganization of rural economies

This study has provided information on the areas that have received significant public investments. In these relatively favored areas, there are issues relating to social differentiation, and we have shown that poverty is persistent despite the incomes from cotton or rice. In these areas, very little is known about the scale of migration and the related remittances. There is also no information in the other regions of Mali, apart from the irrigated rice and cotton areas. What are the rural strategies? What is the actual role of agriculture in these strategies? What can be constructed for the future based on these strategies alone?

Malian agriculture cannot be the subject of broad and open reflection on the development model for production, processing and trade for the future. It is not possible here to conclude on this point, but to suggest avenues for deeper reflection in the form of questions.

What agricultural development model can be proposed that combines economic growth, development of rural and urban employment, improvement of productivity, and that efficiently and sustainably uses natural resources that are fragile and subject to strong anthropogenic pressures? What methods of land use planning could be proposed that takes into account the diversity and complementarities of the different regions in Mali, and how can the diversification of agricultural products and diversification of incomes and employment for the rural population be included? How can we reflect on technical systems that help us to meet the challenges for agriculture in the 21st century, that is by sustainably protecting natural

resources, protecting and increasing biodiversity, and developing quality products? On what bases can Mali open up to the outside world without making its economy fragile? In this light, what could be the avenues for developing the historic and cultural heritage of Mali as a comparative advantage that would better develop agricultural products that are geared towards specific qualities for its image? What could then be the role of the Malian Diaspora in addition to monetary transfers?

MEXICO REPORT

Fernando Rello, Fernando Saavedra,
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The Evolution of Agriculture

When analyzing the effects of liberalization on a country's economy, on rural society and on agricultural growth, we should first take into account the complexity of economic structures. Particularly when these structures have played an important role long before the process of liberalization was put in motion. In Mexico, the process of liberalization has simply aggravated the changes, or has given them a different direction.

The agrarian structure in Mexico is highly concentrated and public policy is the primary driver behind an asymmetrical structure and the resulting consequences. In the first place, the Agrarian Reform fragmented ("pulverized") agrarian property, establishing "el minifundismo". These tiny landholdings have come to be the poor pole of agriculture, and have been an ongoing source of poverty and migration. The other pole, the favored, was also the product of a state decision: to convert medium and large ownership into the economic motor of the rural sector. This segment was responsible for producing the food and foreign currency needed for industrial growth.

The failure of agriculture in Mexico was caused by the government's approach to agrarian reform. In effect, the state conducted agrarian reform to resolve social and political problems; but it failed to create a modern agricultural sector for small landowners. One of the challenges facing agriculture has been to satisfy the needs of a growing population. The population dynamics of the twentieth century can be divided into two major

stages: from 1900 to the end of 1960, when the country needed more people and the population more than tripled (from 13.6 to 48.2 million); and from 1970 to the present day, where over-population came to be recognized as a problem, such that something had to be done to halt its growth. In any event, demographic inertia would continue the rise leading to a population of approximately 103 million in 2005, or a doubling in 35 years.

Land distribution combined with the construction of dam—that made new lands available for cultivation—started a phase of extensive development that increased agricultural production between 1930 and 1964, above the rate of population growth for the same period. Another element of change during that same development phase was the application of modern agricultural/biological technology, known as the Green Revolution. This led to intensive growth based on increasing productivity rather than on simply extending the frontiers of agriculture. However, the Green Revolution was confined to the irrigated regions in the north-west, and to large producers.

In 1965, signs of exhaustion began showing in the extensive rural growth model, in that, agriculture was no longer structurally capable of responding satisfactorily to the needs of the economy or rural society. Domestic production has not kept up with the needs of a growing urban population demanding new foods. This led to an increase in food imports that continues today.

The government's response to this loss of self-sufficiency in food production and growing social discontent was to initiate, at the beginning of the 1970s, a wide-reaching program of institutional change. Through this program, the government intervened extensively in the markets. This lasted until 1982, and during that time

public spending on agriculture rose substantially. This ambitious government effort to play an active role in the attempt to drive the productive capacity of the countryside upward—the last such attempt in Mexico’s agrarian history—did not furnish the results hoped for, and the response from production was disappointing. Two reasons for this failure are discussed below.

The government response had concentrated its support instruments in the regions with greater productive capacity (the north of Mexico), on large-scale producers, and on the upper sub-sector of the peasant farmers, who were able to produce at a surplus. The ordinary small farmers, the majority of Mexican producers, were excluded. Moreover, the policy consisted of raising subsidies for fertilizers, credit, water and other basic materials, but the policy kept food prices low to benefit urban consumers. This was a disincentive to farmers, and equally inevitably the subsidies were taken up by the medium and large producers, leaving little for the small producers. The result was almost stagnant production plus a reinforcement of the already concentrated structure of agriculture.

1983-1990 saw the Mexican economy in crisis, and the government began to apply structural adjustment programs and programs to liberalize the economy. Mexico came to these changes with a worn-out model of agricultural growth. The agricultural process was in clear decline; and the sector was segmented, unequal, had more than half of its small producers living in poverty, and created production units with little economic viability. In short, Mexico’s agriculture was weak and its rural society vulnerable.

A bias against agriculture is clear in the economic strategy adopted during the first years of the structural adjustment

programs, because the economy did not consider agriculture an important sector. Public spending and public investment, which had been a key growth factor during the previous stage, fell noticeably and as public investment in farming declined, so did farming credit.

Another attempt at reforming agriculture, this time with a more liberal bent, began in 1992. This reform altered the system of rural ownership, started dismantling state-owned companies, and began applying a new agricultural policy that was more acceptable to the directors of GATT and NAFTA. The results fell far short of the reformers’ expectations, and agriculture continued to grow very slowly indeed.

When NAFTA (North American Free Trade Association) came into force in 1994, it propelled Mexican agriculture more rapidly into international commercial circuits. The Treaty lays down a scaled process of tariff reductions from zero, to five, to ten or to fifteen years, until 2008 when all the tariffs on agricultural products will have disappeared. Mexico reserved its sensitive products (corn and beans) for the 15-year period, but freed almost immediately products such as soya and sorghum, where it had little comparative advantage. From the beginning, the USA removed almost all duties on Mexican exports of vegetables, except in the case of a few sensitive products such as tomatoes. The volume of agricultural commerce increased substantially, but imports of food rose faster than exports, and thus the overall commercial balance in agriculture has been negative.

In the period since the signing of NAFTA, state intervention has continued to be significant but operates differently. The accent is now more on direct transfers instead of on guaranteeing minimum reserve prices. Even though compensatory social spending has risen substantially,

there is still no integrated strategy to strengthen the sector's productivity.

The rural labor market is also not generating enough jobs to satisfy the demand from rural young people. On the contrary, rural employment has actually fallen. The way out of this grave problem has been an exodus from the sector, in the form of emigration or the search for non-agricultural jobs.

Summing up, the overall balance is negative. Agriculture is proving increasingly less able to produce the food required by a population on the rise; it has ceased to be a foreign currency earner; and it no longer represents a source of jobs for the up-coming generations of rural young people.

The General behavior of rural markets

As was expected, NAFTA gave a huge boost to the commerce of farm produce between Mexico and the USA. Exports of Mexican fruit and vegetables grew rapidly, consolidating Mexico as the principal supplier of fruit and vegetables to the North American market. The result is that producers, packers and exporters of agricultural products are indisputably among the main beneficiaries of the Treaty.

Following projections made before the enforcement of NAFTA, there has been an increase in imports of the grains and basic products in which national production does not have a competitive edge. This brought domestic prices into line with international prices, which have tended to fall, put the squeeze on farmers whose production costs have risen due to a reduction in government subsidies to productive factors, and support institutions for producers. By contrast, the subsidies paid to North American farmers have gone up, thereby creating asymmetrical commercial competition in the framework of the

globalized economy. Imports of wheat, rice, sorghum, corn and milk powder have grown significantly, offsetting the positive effects of increased exports. Indeed, the commercial balance for farming has operated at a loss almost every year since 1995. Agriculture has thus ceased to be a generator of foreign currency, which it had previously been for a number of decades.

The effects of globalization and NAFTA on prices have been unfavorable to the agriculture of basic products. The fall in agricultural prices has put the majority sector, the grain producers, at a disadvantage; moreover, national production of wheat, rice and sorghum has dropped. By contrast, white corn, Mexico's principal agricultural product and staple food, has maintained its levels of production. The overall losers have thus been the grain producers. Indeed, the balance of NAFTA-plus-10 seems to be negative for most rural producers, and many of them have taken to the streets to express their discontent, demanding termination or at least modification of the Treaty.

The behavior of the factors markets has been to the detriment of rural dwellers. Rural labor markets have shrunk, thus failing to provide enough jobs to meet the expansion of the rural population. The number of the rural population in work has fallen, losing 400,000 jobs in the period 1995-2003. The response of the rural population has been to look for work elsewhere outside agriculture or to emigrate, most of all to the USA.

Real rural wages fell in the period 1995-2003, hitting agricultural day-workers and "minifundista" peasant families, obliged to sell their labor. These two groups represent the majority sector of Mexican agriculture. As wages being paid in other jobs have grown faster than rural wages, more and more of the younger population are joining

the exodus from farming.

The financial institutions servicing the countryside are totally inadequate. The money market is characterized by credit rationing, which means there are producers ready to pay the going rate of interest, but they simply cannot find the credit. The big banks will only finance the large producers or agricultural industries, and refuse to service the small producers. These then are forced to turn to loan agencies, or to formal or informal micro-financing institutions, scarce in Mexico. Reforms to the financing system are as yet incomplete, and it is this incomplete financial reform plus failures on the part of the credit market, that are hindering attempts to invigorate farming-related investments, productivity and production.

Microfinance institutions have proved to be suitable instruments for providing credit to small landowners and small business. They are however a relatively new phenomenon in Mexico. The construction of a system of rural financing that effectively reaches the small producer is priority number one, and microfinance seems to be a promising option.

Privatization of the market for technical support services to rural producers has not proved to be an efficient replacement for the previous state system. There is a demand for these services, but the supply falls far short of that demand. The majority of the small producers lack technical assistance, and this puts them at a disadvantage in a context where a competitive edge is essential.

The products markets are functioning in a context of abrupt privatization that was poorly planned, and went straight from marked state intervention to an entirely different scheme controlled solely by market forces. This has sparked further oligopolistic concentration of the agro-industrial chains, which were already

heavily concentrated before globalization and the reforms to the farming commercial system.

One characteristic of the Mexican agro-industrial system is that the supply of raw materials has not kept up with growing demand, an imbalance which has had to be made up by imports brought in by big companies. The system of supply under contract, operating in different forms, has been developed at the initiative of the big agro-industrial companies which are concerned with guaranteeing supply according to both quality and price. However, the old supply methods based on the traditional markets still continue as well.

With incomes on the rise, the demand for foods rich in animal proteins has grown rapidly. This has caused marked tension in the agro-industrial system, because it has not been able to produce enough of the farming raw materials necessary to produce animal protein which consumes large quantities of vegetable protein. The inadequacy of the Mexican agro-industry with regard to sorghum, soya, and, in particular, the yellow corn coming from the USA, effectively means dependency and potential fragility. To illustrate this fragility, one only has to consider the current crisis in the corn system, caused by price rises in North American exports, and by the program in the USA to produce ethanol.

Globalization in the food chain of fruit and vegetables has implied an increase in production and productivity on a scale never before seen in Mexico. This increase in crops of greater commercial value on the national and export markets, has been achieved at the cost of: a) degradation in the natural and human resources of the productive regions, which has affected small landowners most of all, and they are the ones who already benefited least from

the intensive farming methods applied to these products, b) greater control and benefit for distributors over producers, and c) greater concentration in larger-scale economic units in production and distribution. The small horticultural producers have not been displaced altogether; they have simply been re-accommodated in secondary positions within this dynamic agro-industrial chain.

Functioning of the Markets and Rural Segmentation

The hypothesis being put forward is that rural segmentation has increased with globalization. To test this, a model of convergence was constructed to compare the evolution of income in rural regions of high and low economic development. The analysis indicates that Mexico's economic growth has not led to any appreciable reduction in regional disparities over the last 20 years. In fact, the regional agricultural income of the provincial states diverges between the regions of higher and lower incomes. This is indicative of public policy's inability to reduce the regional inequalities that arise out of the development process. In short, there has not been convergence, but rather an increase in rural segmentation.

The main reason for the continuation of inter-regional economic disparities, and of disparities in family incomes is the persistence of a totally unjust and polarized agrarian structure. The system is the legacy of agrarian reform and public policy that have favored conservation of the noticeable differences existing in the appropriation of means that generate wealth and income.

It can, thus, be said that the way the markets function has not contributed to a more equitable agrarian structure, but that, on the contrary, has actually been responsible for widening the disparities and creating further segmentation.

i) The land market has become more active in the last 20 years, and dealing in land has increased significantly. The huge disparities between the parties have meant that the principal beneficiaries have been the medium and large producers. The number of "minifundista" peasant farmers has fallen. Presumably they have emigrated, and leased or sold their minute land-holdings. A growth can be observed in the number of the small properties of 2 to 5 hectares, which would indicate a new process of land consolidation.

ii) The supply of jobs on the rural labor markets has fallen, even though there has been a rise in the rural population seeking work. Significantly, too, rural wages have fallen in real terms. These two factors have most significantly affected the families of workers and peasant farmers, and these are the poorest families in the country.

iii) The credit market has only served to underscore inequalities by rationing loans most noticeably to small rural producers, who have limited access to credit. These small farmers do not have proper access to farming insurance or technical advice, and this is in a context of significant risk due to natural disaster and growing commercial competition.

iv) The transition from a system of agricultural commercialization heavily managed by the state to a system ruled by the markets and private capital, has propitiated concentration and asymmetrical commercial dealing between economic players, who are highly disparate with regards to their economic and commercial power. The gaps left by state-owned companies have been filled by private capital, which have further concentrated production.

v) The process of economic concentration in the agro-industrial chains has continued, particularly with regard to export-related activities—import and end-distribution

(supermarkets). Commercial dealing between monopsonies and small producers is asymmetrical, and works heavily in favor of the former. Contract agriculture represents an improvement for the latter, but is still not sufficiently developed.

vi) The increases in agricultural productivity observed in the last decade have not converged at a regional level. They have been concentrated in the more developed irrigated regions with greater access to investment resources and closer ties with agro-industries and dynamic markets. The parts of the country where peasant agriculture prevail continue to fall behind.

vii) Public policy on agriculture has fomented segmentation because it has favored the medium and large producers, as well as the agricultural zones of greater productive potential, which are the more developed areas.

Risks and Possible Obstacles: the possibilities of adaptation and recomposition under way

As mentioned above, Mexico found itself at a disadvantage when the process of liberalization began not only in economic terms, but also in social and environmental terms. This was the result of a combination of economic, socio-demographic, political and bio-physical environmental factors taken in a historical perspective. There already existed significant regional differences in a country where inequality, exclusion and discrimination are the order of the day. These differences - which manifest themselves socially and in terms of terrain - impacted the less favored population groups, excluded by the development process, to a disproportionate degree. Liberalization has only served to accentuate differences and inequality, in part also because it has coincided with a demographic transition in the country that has meant on the one hand, significant

population growth and on the other hand, a change in the age-distribution resulting in an ever-growing population of working age, who have put increasing pressure on the demand for jobs.

The Processes of Differentiation: conditions in the natural environment, marginalization and poverty

Mexico is a land of mountain chains with steep slopes, abrupt precipices and narrow valleys, in contrast to the wide-open desert plains of the north. The result reduces the area open to farming. About 65 % of Mexico's territory is unsuitable, and only about 30 million hectares have a gradient of less than 2 degrees, but these areas lie in the arid north-west, north and north-east where rainfall is low.

In addition, 76 % of the population resides in the north, centre and north-west of the country, where naturally-available water is not plentiful, but where paradoxically 77 % of the GDP is generated. The region where water is plentiful is the south-east, home to only 24 % of the population and generating 23 % of Mexico's GDP.

The agricultural frontier has been pushed to its limits; the soil is losing its fertility, deforestation continues unabated, provoking erosion, desertification and environmental degradation. All this, added to unsustainable productive systems, not only compromises the areas of the small farmers, but affects the areas of medium and large producers too, and this only serves to restrict the expansion of production. In addition, Mexico is vulnerable because of its exposure to natural disasters (earthquakes, hurricanes, floods, drought), and to the effects of world climate change.

During the period 1970 to 2000, the incidence of marginalization fell, thanks to progress in education and improvements in housing. Thus, the number of provincial

states with a very high degree of marginalization, eight in 1970, fell to five in 2000; but the number of states with very low marginalization, rose from three to four in the same period. However, this overall reduction did not mean any significant reduction in the breach between the two extremes, and thus regional inequalities persist. Advances have been made in almost all the regions when it comes to marginalization, but the inter-regional inequalities remain because the poorest regions have not managed to advance more rapidly than the wealthier regions. The greatest incidence of extreme marginalization is concentrated mainly in the nucleus of the indigenous rural population. The differences noted in the Human Development Index reveal the existence of vastly disparate worlds in Mexico.

In 2002, half of Mexico's population was living in poverty, and a fifth of the population was living in extreme poverty caused by slow growth in the economy and inequality in income distribution, a structural characteristic of the Mexican economy. In 2002, 20 % of the poorest population earned only 3 % of the total income, whilst the wealthiest 10 % earned more than 40 %. About 65 % of the Mexicans in extreme poverty live in the countryside.

The Exit Options: the development of transfers, non-agricultural employment and migrations

Mexico's agricultural sector has not been dynamic; indeed, agricultural wages and remunerations have fallen. This stagnation, in addition to job shortages in the sector, has caused many rural families to give up agriculture, and to look for work in non-agricultural activities. At the same time, private and public transfers coming from outside the rural economy have grown rapidly, and reach the target population

much more effectively, representing a quarter of the total income of poor families. However, this clearly compensatory social policy cannot substitute for the lack of economic growth, in the long-term. The problem is compounded by the absence of a viable strategy for rural development.

Public spending on rural development has increased markedly, and has contributed to the relative decrease in the indices of poverty in recent years. Private transfers, especially the remittances sent home by Mexican workers in the USA, have increased spectacularly and have helped mitigate the poverty of their families. Rural remittances, estimated in dollars, grew annually at a rate of 22.5 % during the period 1988-2003. The share of these remittances in the total income of rural families was 5.9 % in 2002, higher than that of all the public transfers combined at 5 %.

Inter-urban migration tends to be the predominating form of displacement. The majority of migrants head for the medium-sized cities and almost a third for cities with populations of over a million. Even though urbanization is the dominant demographic direction in Mexico, there still remains an appreciable proportion of the population in non-urban ambits. Some 11.2 million live in villages of 2,500 to 15 thousand inhabitants, and 24.7 million live in the 196 thousand scattered settlements of fewer than 2,500 inhabitants. By the same token, the traditional movement of agricultural day-workers has remained as a recurring phenomenon that involves thousands of families who leave their homes to work in the crop-growing fields in the north and north-west of the country.

Migration to the USA is on the increase too. It has been estimated that the number of Mexicans who live north of the border increases annually by more than 400

thousand people, such that the current total of Mexicans resident in the USA is calculated to be almost 10 million, about half being illegal immigrants. The changes registered in internal migratory flows, and the growing international currents heading for the USA can be explained, in large measure, as a product of the current stage of the economic crisis. A relevant reference is given in Polanski S. (2006), who estimates that there was a loss of 2 million jobs in agriculture between the start of NAFTA and the beginning of 2006, even though not all those job losses can be directly attributed to the Treaty.³⁰

Between 1990 and 2000, the provincial states with the highest indices of poverty and inequality (the south-eastern states) continued to be the main origins supplying the exodus. The directions of the migration flows led mainly towards the centre of the country, which is now losing some of its 'pull' power. However, cities along the northern border and the USA cannot be taken out of the picture.

The changes in migration patterns vary in volume and composition according to the age of the population. These leave behind striking imbalances in different towns, states and regions across the country in terms of demand for services, workforce availability, relationships between dependent population, working-age population, and between the rural environment and the urban environment.

The relative under-development of the indigenous regions sums up the inability of public policy and the development model

to improve the living conditions of the local population, who are the most marginalized in Mexico.

Bottlenecks, vulnerabilities, challenges and solutions

- The principal agricultural and rural problems today are closely related to an old but renovated agrarian structure. They are definitely not the result of the insertion of Mexico into the process of globalization. This is not to say that globalization has not made a marked impact on agriculture, but simply that the basic problems—insufficient production, dependence on the outside world for food, scant dynamism in rural employment, rural poverty and emigration—already existed prior to the process.

- “Minifundismo”, subsistence farming on very small lots which is an ongoing generator of poverty and migrants, is the hardest problem to solve. If we include those who own less than 5 hectares, within the “minifundistas”, the group makes up 59 % of all producers. They have existed since the time of the Agrarian Reform, but what are their prospects now? There is no productive agricultural way out for them, because they lack the necessary resources. Their only alternative is to find a job outside agriculture, which is not that easy because those who have stayed behind in the fields are the old and the less well-educated.

- Another problem is how to foment the growth of those small producers who do have the capacity to produce a surplus, even though they do not have the backing of adequate support institutions, and they operate in imperfect markets, with fragmented infrastructure, and face an asymmetrical international commercial system. There has not been any development strategy for them, in the present time or in the past. In the absence of such a strategy, the possible scenario is

³⁰ Testimony submitted to the Subcommittee on International Trade of the Senate Finance Committee, Washington DC, Sandra Polanski, 2006.

stagnation into progressively more difficult conditions, except for those who manage to position themselves in market niches, or to associate themselves with other dynamic agents as has happened in the case of small market-gardeners.

- The medium and large-scale producers, who supply the industry, find themselves in a difficult situation because of high costs—due to inadequate support institutions and imperfect markets—and subsidies received by their competitors in the USA. Exporters face growing competition and a loss of dynamism in the traditional export markets, and there are serious doubts about a continued boom for Mexican vegetable exports to the USA that first became possible because of NAFTA.

- Public spending on farming has remained high, but it is scattered and there is no organized rural development strategy. Productive spending is regressive too, because it only benefits the medium and large producers. Social spending does indeed reach the rural poor, but it does nothing to improve their productive capacity.

- Agriculture in Mexico has ceased to fulfill its functions in the process of economic development: domestic production is unable to satisfy the growing internal demand for food and raw materials, and the shortfall has to be made up by imports. The sector's capacity to generate foreign currency is nil. The commercial balance in agriculture and food is negative, and everything indicates that this is the trend for the future. The degradation in the country's base of natural resources has compromised the capacity of the sector to provide even basic environmental services.

- Agriculture ceased to be a driving force in the Mexican economy many years ago, but is a poly-faceted collection of rural activities that still absorbs a fairly sizeable

proportion of the population (approximately a quarter). However, farming activities with their lack of dynamism, are contributing progressively less to the generation of rural jobs. Between 1995 and 2003, the rural workforce diminished by 400,000 workers, to a total of 9.3 million in 2003. Agriculture continues to be the main employer of rural inhabitants, but its share in total rural employment fell from 62 % to 55 % between 1995 and 2003, and other non-agricultural sectors have increased in importance, which means that the greater part of the job losses are in agriculture.

- The low remuneration associated with agricultural activities, as compared to other activities, is forcing labor out of agriculture and into a search for non-agricultural income in non-agricultural labor markets. When this strategy is successful, it can mean an improvement in the income of many rural families; the growth of non-agricultural income as a proportion of total rural family income, has been rapid.

- The rural economy has ceased to be a source of employment for the young people who are born into these communities, and they now find that emigration is one solution for the lack of jobs. Moreover, due to the growth in the underground economy and to the fall in the real value of rural wages, the majority of those who remain in the countryside live in poverty or close to the poverty level.

- Rural poverty fell between 1998 and 2004³¹, in relative terms. This was not due to the growth of agriculture but to the

³¹ However, preliminary data from the National Survey of Incomes and Family Spending indicate that relative poverty rose between 2004 and 2006.

increase of non-agricultural employment, public transfers and remittances. In other words, all the factors that explain a way out of rural poverty are external to the agricultural sector.

- This implies great external vulnerability for the rural economy, as almost all the possible ways out depend on the health of the North American economy and on that country's politics, as well as on the price of oil. If there is an economic crisis in the USA, the Mexican economy itself will go into crisis. Jobs would be destroyed in the sectors that attract workers from rural zones, rural social spending would be reduced, and the demand for workers and Mexican exports would fall.

One useful way of conceptualizing the problems deriving from this diagnosis is to see them as challenges to be faced both now and in the future. The main ones are the following: i) the demographic challenge, ii) the environmental challenge, iii) the challenge of marginalization and segmentation, and iv) the indigenous challenge.

The challenge for public policy and society is enormous because the current context is actually unfavorable to a solution for these problems. The agrarian structure is so concentrated and so deeply entrenched that it has remained virtually unchanged despite decades of public policy on the issue and it is the structure, itself, that is an ongoing source of segmentation and inequality.

The greater insertion of the Mexican economy into international economic circuits, and the transformation of public policies and institutions, have brought with them changes in market organization and the functioning of institutions. However, these changes have not served to reduce, but rather to increase inequalities and segmentation. An economic policy that sees the solution to society's economic problems in the satisfactory

functioning of the markets (which in reality are neither free nor perfect, but markedly concentrated and dominated by big companies), will be incapable of resolving Mexico's already widespread inequalities.

MOROCCO REPORT

Najib Akesbi, Driss Benatya, Nouredine El Aoufi, February. 2007, 133 p.

Place and Roles of Agriculture in the National Configuration: Major Trends

Morocco has a population of about thirty million inhabitants, 45 % of which live in rural areas. This rate has been declining steadily for the past fifty years, although the rural exodus rate seems to have slowed down over the past decade. With a population growth rate that has also slowed down (1.4 % per year), the country is going through a demographic transition, or “demographic windfall”, with a significant increase in the working population estimated at 11.2 million people in 2005. On the whole, agriculture employs 43 % of the economically active population, but this rate goes up to 80 % in rural areas. Keeping in mind the “entries” and “exits” from the workforce, the additional number of individuals able to work was estimated to be 460,000 people in 2005, and the additional number of job-seekers is estimated at 380,000 per year for the next ten years.

Consequently, the net job creation rate has continued to remain below demand (on average 137,000 between 1982 and 1994, and 217,000 between 1995 and 2003). Conditions therefore seem to favor a structural increase in unemployment. Even though the unemployment rate appears to have declined slightly over the past two years (10-12 % overall and 18-20 % in urban areas), the structural characteristics of unemployment remain a cause for concern: long-term unemployment, particularly high among youths, especially graduates of higher education, and women. In any event, the pressure on the labor market will certainly remain strong for the

next ten years. According to a recent study, 285,000 jobs on average need to be created each year between 2005 and 2014 for the current rate of unemployment to be maintained.

Judging from experience over the past five years, economic growth in Morocco is neither strong nor stable enough to generate such a job creation rate. In the long-term, the GDP growth rate appears low and too volatile, still excessively dependent on the results of crop seasons, which are themselves heavily dependent on climatic conditions. Analyzed in terms of its key determinants, however, this modest growth appears to be driven more by household consumption than by investments (private or public), while external trade indicates a rather negative impact, pulling GDP downwards. Yet, the poor performance of external trade is offset, at the level of balance of payments, by transfers by Moroccans resident abroad, tourism earnings and direct foreign investments. Indeed, these external flows have guaranteed a relatively comfortable cushion of currencies, and contributed to some stability of the Dirham at the external level, and of prices at the domestic level. The same applies to public finance, basically overburdened by the rigidity of public expenditure and inadequate performance of the tax system. Yet, it has so far been maintained at more or less acceptable levels of budget deficits (3 to 5% of GDP), mainly as result of privatization income and surging domestic debt.

Within such a macroeconomic context, Morocco’s agriculture has not followed a particularly favorable trend, and its contribution to growth has been rather disappointing. After witnessing its contribution to GDP decline from more than 30 % to nearly 15 % during the first twenty years after independence, the agricultural sector subsequently recorded a

very low growth rate, at least too unstable to allow it make the giant progress in quality expected by everyone. Indeed, whereas productivity has remained mediocre, per capita production has often declined, particularly for the major basic food crops. For example, as the agro-export sub-sector, which focuses on certain fruits and vegetables (citrus fruits, melon, strawberries, early vegetables, etc.), expanded rapidly, the country's dependence on vital foodstuffs (grains, sugar, edible oils...) are unprecedented.

Beyond agriculture, this situation also affects rural areas as a whole. Like agriculture, rural areas continue to face many problems that constitute formidable obstacles to their development: limited natural resources, lack of infrastructure, inadequacies in land structures, poor quality of human resources, lack of financial resources, etc.

Obviously, this situation has not come by chance; it is the result of government policies, all of which have always had the shortcoming of avoiding basic structural reforms, starting with policies concerning land issues, organization of farmers, or development of production and marketing conditions. Consequently, three major phases have been identified in this fifty-year trend of agricultural and rural development policies: the "dams policy" phase (1965-1985) with a selective modernization project based mainly on massive state intervention, but focalized on limited spaces and production; the "structural adjustment policy" phase (1985-1993), primarily determined by the objectives of state divestiture, sector deregulation, and liberalization of domestic and foreign trade; and the last phase, which is ongoing, based on a cross-fertilization of "strategies" that have remained latent, the multiplication of free trade agreements, and an ultimate quest for "upgrading" an agriculture that is forced to meet the

challenge of open-door policy.

Structure and evolution of agricultural and agrifood markets

Although the desire to liberalize trade and introduce a market economy has been reiterated since the 1980s, it has often come up against hard realities. Indeed, both within and outside the country, the integration of agriculture downstream, in terms of processing industries or simple marketing channels, remains problematic. Integration into agro-industry generally still seems very limited, to such an extent that agro-industry hardly accounts for 5 % of GDP.

In the absence of industrial processing, agricultural produce is therefore mostly sold fresh. However, because domestic markets have not undergone any significant reform since the country gained independence, they still suffer as a result of obsolete methods of distribution, uncontrolled marketing channels, and too many intermediaries who get most of the added value without letting the main actors concerned benefit from it upstream and downstream; these actors are the producers and the consumers. Wholesale markets, in particular, are handicapped by archaic structures and outdated regulations, and dominated by "agents" who merely collect a comfortable rent. Regarding exports, the inadequate logistic means, shortcomings in the organization of operators, the lack of a dynamic and aggressive marketing policy on external markets, and the protectionist options and practices of the authorities concerned (European, in particular) seriously limit Morocco's export ambitions.

Although sectors integrated into external markets are the most dynamic, their competitiveness has been hampered by inadequacies at various levels: promotion, diversification of products and markets, innovation and improvement of quality.

Furthermore, apart from packaging, the fruit and vegetable export sector suffers from the weak cooperative movement, which is the only way of organizing producers. Sectors focusing on the domestic market are still complex and disorganized. The atomistic structure of vegetable and animal products supply has led to the emergence of an excessive number of intermediaries whose activity is sustained by the unnecessary increase in sector segments. Sectors concerning staple products (bread, sugar, oil) are still partially regulated and highly handicapped by an oligopolistic or even monopolistic structure of markets. Contracts concluded between farmers and agro-industrial units (irrigation farmers and ONA agencies in the case of sugar, for example) are only “residues” of the era of strong state involvement through Agriculture Development Authorities. State involvement has simply been replaced by a private pole.

This is because the state has not yet fully assumed its function of organizing and regulating the market economy so as to put in place instruments required for establishing a transparent market without the monopolies or oligopolies often found in the case of staple products. This is best illustrated by the stagnation that results from the statutes and operating rules for wholesale markets, which considerably slow down the development of modern distribution and impede any integrated marketing channel. In addition, sectors as sensitive and vital as those of sugar, seed oil or dairy products are indeed largely controlled by only one private group, the powerful “Omnium Nord Africain”, which also controls a large part of the emerging sector of modern distribution.

The rigidity of Morocco’s land tenure systems has stifled the influence of modifications in the organization of the sub-sectors, except for export-oriented

sectors. These sectors, which are increasingly required to fulfill certain conditions to cope with competition on external markets, are forced to change, particularly in light of the type profession and production organizations. Indeed, the sectors have the rare active and relatively well-structured professional organizations, as well as some limited experiences of “cultivation contracts” or long-term lease non-private lands. For the rest, the lands, handicapped by obsolete land regulations, are so atomized and divided that they continue to hamper any idea of significant recomposition of farm structures or relations between farmers and various actors that intervene downstream. Low specialization of agricultural production units and limited inter-branch integration (with very few practices of contractualization) appear as obstacles to the reconfiguration of the production space.

In Morocco, changes in the operation of the sub-sectors have not yet reached the critical threshold to trigger any significant transformation of production structures. This is because the said sub-sectors are either inadequately structured, or are really absent. Given the situation, open-door policies have not promoted significant development of exports or competitiveness of national sub-sectors. In view of the rigid farming systems and the dominance of informal relations, agrifood firms – and, to a lesser extent, supermarkets – are not able to give fresh impetus to significant and sustainable segmentation of Morocco’s agriculture.

Segmentation of production structures: Trends and consequences

A review of the agrarian structures and methods specifically reveals the “composite nature” and variety of major production and management methods in rural farming areas. The processes leading

to such segmentation of agrarian structures show the complex and contradictory effects of capital intensification and market liberalization policies implemented since independence: long-term dissolution/conservation impacts of capitalistic methods and mechanization on traditional configurations. Several results have been identified through analysis over a long period: 1.) slow evolution of land structures, 2.) composite production configuration, 3.) extensive and intensive farming system 4.) low productivity of factors and 5.) competitiveness based on type of farm.

Slow Evolution of Land Structures

In the absence of agrarian reform, the land structures and legal status of lands have evolved very little over a long period, thereby maintaining the predominance of micro-ownership, heterogeneity and complexity of the status of lands, the precarious nature of rural leases, etc.

The increase in usable farm area (UFA), coupled with the decline in the number of farms, led to a 20 % increase in the average size of productive units from 4.9 ha to 6.1 ha from the mid-1970s to the mid-1990s. This trend concerns all the farms with, however, the exception of farms of more than 100 ha whose average area declined by 15 %. In addition, land parcellation has not slowed down, with the number of parcels in each farm increasing from 6 to 6.7 on average.

Furthermore, there are still great disparities in the distribution of land: farms of less than 3 ha account for 55 % of the number of farms and cover 12 % of the UFA, while those of more than 50 ha account for less than 1 % of the total number of farms and cover more than 15 % of the total area. The intermediate categories account for 44 % of the farms and 72 % of the usable farm area, with a predominance of farms of 5 -

10 ha (16.6 % of number of farms and 2.7 % of total UFA).

Lastly, the types of ownership have also evolved slowly: private property or Melk (75 % of the UFA and more than 85 % of the farms); lands for collective use (plus the Guich lands³) with less than 20 % of the UFA and farms; and state lands (plus Habous lands) covering less than 10 % of the UFA and less than 5 % of the farms.

Composite Production Configurations

Taking into account a series of indicators relating to the type of market, the degree of mechanization, and the management and working methods, four different configurations have been identified in terms of size by the study:

(i) a private configuration marked by the large size of farms, high degree of mechanization, and export market-oriented production. It can have a blend of "methods" that are market-oriented and for domestic purposes (feudal in nature), with management structures and working methods that are both modern and archaic. Differentiations between farms within this configuration are based on dominant methods, for example.

(ii) a second configuration of public status and relative large size uses a dominant agro-industrial method and substitutes for imports. In terms of management, the bureaucratic type combines a more statutory and relatively more stable working method (permanent paid workers) with more atypical forms (casual labor).

(iii) small and medium-size farms operating with a domestic-oriented method are dominant. Their activity, capitalistic to a lesser degree, uses a traditional management method with a non-salaried component of labor. Such a domestic-oriented configuration takes a wide variety of forms that bring them closer to market-

oriented (private) and agro-industrial (public) configurations or configurations that could be considered as subsistence-oriented.

(iv) domestic-oriented micro-farms correspond to traditional subsistence and self-employment agricultural activities.

Extensive /intensive Farming System

This farming system refers to capitalistic intensification of production systems. Adopted in agricultural policies under the Protectorate and pursued since independence, this process gained momentum in the 1980s and 1990s with progress in the liberalization of trade and relocation to Morocco of some activities (tomatoes and green beans in Souss, melon and table vines in Haouz, strawberry in Loukkos, for example). This evolution has direct and indirect impacts on the agricultural and pastoral ecosystems, as well as on social relations (scarcity of natural resources, overexploitation of water and soil resources and their pollution, rural exodus, and breaking of community relations).

The results of the intensification of productive farming systems have been considered in the light of a series of relevant indicators:

(i) The Census data show a significant number of farms practicing irrigation: 37 % of the total number cover an area of 1,251,456 ha. Though representing only 14.3 % of the total UFA, irrigated areas have increased by 72 % in comparison to 1974. On the other hand, the number of irrigated farms increased only by 7 %, indicating intensive (internal to farms already irrigated) and non-extensive development of irrigation. Farms of less than 3 ha and covering 19 % of irrigated lands represent 12 % of the UFA. Furthermore, large farms (more than 100 ha) cover 12 % of irrigated lands but their

proportion in the UFA is less than 9 %. Consequently, the small and medium-size farms (3 to 50 ha) seem to be at a disadvantage: with 72 % of the UFA, they cover 63 % of irrigated lands.

(ii) With regard to mechanization and modernization of farms, available data indicate that 47 % of the farms have mechanized their tilling works, with wide gaps between large farms (91 %) and micro-farms of less than 3 ha (40 %) or less than 1 ha (23 %). On the whole, and despite efforts towards intensification and modernization, the level of mechanization remains mediocre in comparison to international standards, as shown by the existing equipment pool: a total of 43,226 tractors, or an average of one tractor for 202 ha, as against one tractor for 86 ha in neighboring countries in the South Mediterranean. The situation since the early 1990s shows a marked deterioration: sales of farming equipment fell from 2,127 units on average between 1990 and 1994 to 1,151 units between 1995 and 1999, with the number of cultivated hectares per tractor at 230.

Low Productivity of Factors over a Long Period

Between 1961 and 2002, we have witnessed a sharp decline in the overall productivity of factors. The progress made in the 1960s in terms of technical efficiency has been gnawed away by the deterioration of technological gains. This trend continued in the 1970s before undergoing technical change. Particularly since 1992, a change offset by technical efficiency losses has led to stagnation of the sector throughout the period.

In comparison with the international situation, Morocco, over the 1993-2002 period, recorded one of the lowest productivities per cultivated hectare and per worker. Indeed, the productivity per cultivated hectare represents 11 % of

that of South Korea and 12 % that of Egypt. In comparison with the average productivity countries panel, Morocco's productivity per hectare represents nearly 23 % that of Chile and 26 % that of Greece.

Competitiveness based on Type of Farms

A review of the constraints and possibilities of farms following the liberalization of trade shows several situations that could be summarized as follows:

(i) Potentially competitive farms: These are mainly large farms (28,000 units, representing 1.9 % of the total and covering 21.5 % of the UFA5), and a category of small and medium-size farms occupying relatively limited niches in terms of cultivated areas and agricultural population concerned: market gardening, some industrial crops and fruits. Operating in the export sectors, these farms have developed competitive advantages and specific assets in international competition. However, the composite nature of the farms, and in particular the continued domestic-oriented management methods have a number of organizational constraints (archaic management of human resources, poor mastery of technology and marketing channels, inadequate guidance, lack of research and development, etc.).

(ii) Structurally non-competitive farms: This category comprises almost all subsistence micro-farms (about 600,000 units, representing 41.4 % of the total number and covering 8.5 % of the UFA), as well as a significant part of small and medium-size farms close to the economic viability point. Corresponding to a domestic-oriented subsistence configuration, these farms produce food crops and vegetables and breed livestock for which Morocco's competitive advantage is extremely low.

(iii) The situation of small and medium-size farms (nearly 822,000 units, representing 56.7 % of the total number and 70 % of the UFA). They include viable small and medium-size farms, as well as large farms operating with the domestic-oriented model as regards management and behavior towards the market. Although these farms enjoy economic viability factors (land, water, labor, equipment), they face structural problems, particularly managerial problems that have negative impacts on their competitive potential (ambiguity of legal status of the land, inadequate farming systems, insufficient technical guidance, limited integration downstream, difficult access to financing, shortcomings in storage and transport infrastructure, etc.). They are found mainly in vegetable and animal production sectors (including market gardening and production of citrus), and their development requires coordinated and coherent action, particularly at the land, organizational and human levels.

Consequently, in view of the constraints of open-door policy and challenge of competitiveness, there is not one but several farm profiles, with different behaviors and adjustment capacities. On the whole, there are farms which can already be considered as competitive, those that will probably never be competitive because they are structurally non-viable, and those which could become competitive provided they receive support, and adequate reforms are carried out. This typology suggests that there are several situations and approaches without it being possible to conclude, based on our current field knowledge, that there is a trend more marked by one "profile" rather than by another.

Consequently, over and above the trends in question, the negative impact on the social situation in rural areas is quite certain. A recent World Bank report (2004) has

attempted to assess such an impact on the basis of various scenarios of de-protection. The major conclusion is that, to variable degrees, poverty in rural areas should increase significantly (the rate of poverty should, on the whole, increase from 19.6 % to 22.1 %). In some regions, it could even double. Such a trend is worrisome, in light of the fact that 72 % of the poor people in Morocco live in rural areas.

Consequently, even if we consider only the category of micro-farms that are almost impossible to make “viable”, there are several hundreds of thousands of units that will in one way or another disappear. How will a trend that will halve the current population of 1.5 million farmers and their families be managed? How will such a transfer of population not radically change the urban-rural areas balance, and create new distortions in urban built-up areas, especially if they cannot develop their absorptive capacity as a result of lack of industrial drive?

Risks, Impasses and Solutions

In the attempt to provide answers to the questions, it is essential to start by determining the “areas of vulnerability” of Morocco’s agriculture.

Areas of Vulnerability

The areas of vulnerability of Morocco’s agriculture can be grouped under three main themes: the first is “natural”, the second “demographic”, and the third “policy”.

(i) Natural Resources: The first area of vulnerability concerns the precarious nature and intrinsic limits of natural resources. Unstable climatic conditions, repeated droughts, water stress, UFA limits, soil erosion or salinization, deforestation, desertification, etc. are natural sensitivities with high risks and threats for the sustainability of ecosystems,

and consequently agricultural and agrifood productive systems.

(ii) Population Growth: The second area of vulnerability is demographic. There is a problem primarily because the population living in rural areas still accounts for 45 % of the total population, and continues to increase in absolute value so that the pressure on natural resources remains strong. There is also a problem because, due to the lack of capacity to create an adequate number of jobs, the population windfall could very likely become a “burden”.

(iii) Nature of Government Policies: The third area of vulnerability concerns policies - with shortcomings of government policies that ultimately increase constraints and sensitivities in the agricultural sector, and more generally in rural areas. The problems are all due to lack of reforms. Agrarian structures and land status, education and training of human resources, providing rural areas with basic infrastructure and income-generating activities, marketing and financing systems, agronomic education and research, and professional organization are all areas in which reforms have not been made. They ought to have been made decades ago. The costs of these areas are today becoming increasingly difficult to bear.

Indeed, all these factors of vulnerability have contributed to increasing the difficulties faced by agricultural sector. Despite the deteriorating living conditions, experience shows that the farmers concerned have so far demonstrated a great potential to adjust.

Adjustments and Solutions

The “solutions” for the temporary or durable crisis situations have been varied. They range from simple adjustments through search for alternative solutions “on

the spot” to outright abandoning of the “activity that can no longer sustain life”, including a number of intermediate options. Here are some of the major solutions:

(i) Family and Community Solidarity: Solidarity in a village or tribe has often absorbed the shock of crises because it “distributes” the effects. Today, such solidarity is shown in a more monetary manner through children, generally girls, who are sent to work as servants in urban households, and the money is transferred to the families in rural areas. For diverse reasons, these possibilities are becoming scarce.

(ii) Overexploitation of Resources: Adjustments on farms often even take the form of overexploitation of available resources and/or minimization of production costs with the risk of returning to some extensification of production methods. Indeed, usable farm areas (nearly 22 % in 22 years) have mainly been extended to forest and pastoral spaces and other marginal lands, thereby increasing the risks of exhaustion of soils and destruction of their productive capacities. Accordingly, in view of the increase in the prices of factors of production, many farmers try to cope with the increase by reducing the quantity and quality of products, a phenomenon which, if it spreads, will slow down movement towards modernization and intensification of production conditions. Such an “adjustment from the bottom” is characteristic of the forms of adjustment by many farms.

(iii) Choice of Production and Diversification Possibilities: The other adjustment in farms could concern production diversification possibilities. For the moment, these possibilities seem limited mainly to a few hundreds of thousands of hectares of olive trees and

other fruit trees, and a few thousand hectares of various biological crops and lands in some regions of the country. In the north of Morocco, however, the growing of cannabis has increased significantly in recent years. This illegal crop has been a real solution for most farmers in the regions concerned, who would have probably been forced to emigrate.

(iv) Non-agricultural Activities in Rural Areas: The development of such activities is another alternative that helps farmers to be less dependent on unstable agricultural production. Although there is currently no recent data on the amount and composition of the external income of farms in Morocco, we know, however, that according to the 1996 general agricultural census, more than one farmer out of every five are multiple jobholders. Salaried work, petty trade and various services, liberal professions, handicraft, building and public works, as well as fishing or rural tourism also offer possibilities to earn “external” income, partially compensating for the inadequate agricultural income.

(v) Rural Exodus remains the solution that is chosen most often, it has reduced the proportion of the rural population of Morocco from three-quarters to less than 45 % in half a century. Despite the slowdown noted during the 1990s, and in view of the potential which is still considerable, we could, in the coming years, see a resumption of movement, at least as much as in the 1970s and 1980s.

(vi) International Emigration: The use of this option has been increasing since the 1980s, such that the number of Moroccans abroad has practically tripled in less than one quarter century, from nearly 1 million to 3 million people at the moment, and one-tenth of the total population. Foreign exchange transfers by the migrant population are also increasing steadily, reaching nearly 5 billion dollars in 2006 –

9.4 % of GDP. As for their contribution to the balance of payments, it has become vital. The problem is whether such an option is sustainable. This is doubtful, not only because of the extremely restrictive policies of the host countries, but also because the behavior of the migrant population is changing fundamentally, particularly with the new generations who feel less and less attached to their parents' countries of origin, and increasingly tend to invest fully in their countries of birth.

All in all, while all these possibilities of adjustment and solutions offer some opportunities which are more or less substantial solutions for the numerous crises, they remain subject to certain absolute or relative limits that are imminent or gradual. Consequently, none of these options, namely family or tribal solidarity, over-exploitation of resources or extensification of production conditions, possibilities of diversifying crops (even illegal) or activities in rural areas, and internal or external emigration, can serve as an adequate and sustainable alternative for the serious problems that will be faced by the agricultural sector in the coming years. Each of the options can offer a "safety valve" or respite for a moment, but none of them can sustainably make up for the inadequacies in agricultural activity. This shows that there is still a long way to go in providing appropriate solutions for the problems. Additionally, it does not suffice to identify the "areas of vulnerability" of agriculture and rural areas today to see the possible solutions. We also need to understand that these vulnerabilities have contradictory aspects that make their evolution more complex, and solutions more arduous. The current dynamics therefore require an assessment of the possible dead-ends, and real or possible risks of stagnation within a context of no reform and persistent wait-and-see policy.

Dead-ends and Risks of Stagnation

The risks of stagnation may be considered at five levels: demography and productivity, the agricultural development model, state divestiture, the regulation system, and natural resources.

(i) "Democratic Burden" and Productivity: The risk for the "demographic windfall" to become a "burden" is great because the rate of job creation generated by economic growth remains inadequate to absorb the cohorts of youths, which enter the labor market each year. This has been the case so far, and projections for 2014 and 2024 concerning additional job offers and the growth rates required to maintain the level of unemployment within determined limits do not give hope for better future prospects.

The problem becomes even more complicated when considered in light of the issue of productivity, which remains too low, constituting one of the major constraints on the development of the sector. Sustained progress is not possible without improvement of productivity. However, productivity, of labor in particular, is still hampered by the high population of agricultural workers. Improving the productivity of labor inevitably results in further "liberating" the labor force, and therefore in increasing the cohorts of job seekers in the non-agricultural sectors. Will these sectors be able to absorb them?

(ii) Import-substitution and Promotion of Exports: the double dead end: The disappointing results of import-substitution and promotion of export strategies have led to perplexing situations, and even dead ends; consequently, abandoning compulsory crop rotation in the irrigated areas and substituting the concept of "food security" for that of self-sufficiency have created situations of non-determination with serious consequences. What

content and level can be given to the country's food security? How can the freedom of individuals be reconciled with the collective needs of the society? How can public investments be made profitable while opting not to encourage production on lands developed with these investments?

While the exports promotion strategy comes up against the protectionist policies of countries with major markets, the problems of Morocco's exports cannot be attributed to this external factor alone. The internal factors are not less serious; for example, the de-monopolization of exports, which has had negative impacts on all: atomization of Morocco's supply, dilution of "Morocco" label, weakening of the negotiating power of Moroccan exporters, lack of a marketing strategy, abuse of all types of new private groups, etc. The feeling of a dead end is very strong because while it is possible to criticize the status quo, nobody expects an outright return to the former system.

In the final analysis, the agricultural development model seems to be blocked today within a double dead end, corresponding to its two "aspects". Consequently, the import-substitution policy is at a dead end not only because it has not succeeded in increasing local production to enable it to satisfy domestic demand and thereby gain autonomy from imports, but it has also generated accumulation and distribution mechanisms which have increased inequalities, promoted situation rents and sustained ruinous immobility. The export promotion strategy has led to specialization, which has also ended up being blocked by the rampant protectionism of the European Union and by ill-advised choices of public authorities and inconsistent choices by operators.

(iii) State Divestiture and Inadequacies of

Replacement by the Private Sector: In the aftermath of structural adjustment policies, the state effectively withdrew from many production, guidance or marketing functions, but the problem is that the "replacement by the private sector" has had some shortcomings. In addition to its low contribution to investment, the private sector did not adequately get involved in activities left "vacant" by the withdrawal of the public sector, particularly in agricultural extension, advisory and support services. This reduced the capacity to supervise production, leading to a lag in the modernization process. On the other hand, in areas where private interests have always taken advantage of the situation, state divestiture only helped to perpetuate control of the market by new private oligopolies.

Once again, the dilemma is as follows: how can the key guidance and sundry service functions of agriculture be maintained and developed without "re-engaging" the state, bearing in mind that the private replacement structures, such as the professional organization, are still inadequate?

(iv) Prices and Subsidies: Liberalization or Regulation? The price and subsidies policies for some staple foodstuffs are based on a public finance regulation method by which the state attempts to reconcile contradictory constraints and objectives, starting with the need to offer producers relatively remunerative prices, without putting a strain on the purchasing power of consumers, and running the risk of provoking salary increases that would be prejudicial to this major comparative advantage of the country – labor cost – and to its competitiveness. Experience has shown that this system has negative impacts and sustains situation rents for a minority of "middlemen" without contributing to improving productivity of the products in question.

Today, the liberalization of prices and elimination of consumer subsidies have been initiated, but the hardest part is still to come, since the two most sensitive sectors – national tender wheat flour and sugar – remain in a paradoxical situation that is neither total regulation nor full liberalization. However, the latter is more than ever before on the agenda. Consequently, we now face a double dead end. First, at the economic level, although labor cost is a key condition for competitiveness, the problem is whether it is possible to count on a “winning” integration into globalization and at the same time run the risk of thereby handicapping what remains the major comparative advantage of Morocco. Can we do without a state-managed method of regulation without substituting it with another, assumed by the market?

As for the social dimension, while it is of major importance in a country where social inequalities are considerable and poverty is still widespread, elimination of the subsidies in question poses this difficult dilemma: How can we want to fight against poverty, promote human development and eliminate the only system which has so far enabled poor people to have access to staple foodstuffs at costs within their purchasing power?

(v) Natural Resources: Economy or Ecology? Although it is generally accepted that poverty among the rural populations is a major cause of the degradation of natural resources (destruction of forests and pasturelands to earn a living, etc), we also know that uncontrolled liberalization of trade would probably ruin some traditional regions and activities, leading to transfers of populations, part of which could go to marginal zones (increasing the risks of desertification), whereas another could concentrate in intensive agricultural areas, subjecting the areas to such exploitation that would further degrade the

environment. Moreover, putting the various types of agriculture in serious competition, particularly in South and East Mediterranean, could make operators disregard environmental protection measures and investments likely to increase production costs, and thereby weaken competitiveness.

How can such a scenario be avoided? How can we continue to advocate free trade without being condemned to bear the environmental consequences? How can a market economy and preservation of natural resources be reconciled? How can competitiveness be sought without paying its “ecological price”? These are questions which, without appropriate answers, could lead to a dead end.

Poor Governance: the First Dead End?

The political reorganization of the early years of independence led to the assertion of a strong and authoritarian central government. In rural areas, this trend led to the abandonment of reforms – particularly agrarian reforms – and some rehabilitation of “local notables” who became, with the representatives of the Makhzen (the governors), pillars of local governance. Then it became clear that the primary concern of such governance was security. Law and order and security in Moroccan rural areas were placed at the forefront and influenced government choices and behavior with respect to agriculture and rural areas in the 1960s. Consequently, priority was given to a certain “technocratic” vision of development, because rather than challenge established order, it supported and defended it. The choices were therefore those of a certain elite, and the allocation of resources primarily served its interests. As a result, there were increasing disparities of all kinds, particularly at the territorial level. At a time when some “farm areas” witnessed relatively significant boom, most

of the rural areas sunk into under-development and marginalization.

Evaluated over a long period, this model does not seem to have achieved any of its declared objectives of adequate modernization of farms, nor profitability of investments, nor significant improvement of productivity, nor food self-sufficiency, nor surplus agrifood trade balance, etc. On the other hand, massive and costly state intervention was put in place, under which solid position advantages have been established throughout the agrifood sectors, from production to wholesale markets, including agro-industry, particularly for the processing of major staple foodstuffs.

The adjustment policy, implemented in the 1980s, changed the paradigm at the economic level, since it sought to replace the very strong power of the state with market economy and private initiative. However, at the level of governance, it basically sustained the same spirit and the same practices. This policy did not seek, more than the preceding policy, to associate the population concerned with its orientations or implementation, and above all it turned out to be even more “elitist” and more inegalitarian, generating wealth for a minority and impoverishing the majority. While it is true that efforts to provide basic infrastructure to rural areas started about ten years ago, it is also true that the initiative remains purely “technical” and is not in any way based on consultation with the populations concerned to meet their needs and desires. It should be said that, despite the existence of a parliament, the rural population is still “poorly represented” in a political system marked by the persistence of an “executive monarchy”. Professional representation is no better, when we know to what extent the professional organization is deficient in the agrifood sub-sectors.

The problem is that, today, poor governance has, from an objective point of view, become an obstacle to development, to even the “liberal model” which is being promoted. How can liberalism be advocated at the economic level, and outdated governance practices maintained at the political level? How can the inadequacies of private and professional stakeholders be condemned, while every effort is made to maintain them under stifling political and administrative supervisory authority? How can free enterprise and private initiative be sought, while any “initiative” outside the “canons” of established order is severely repressed? How can free competition be encouraged on markets, while monopolies and rent-seeking behaviors which drain the latter of its substance are maintained? How can advocacy for mobility of capital be conducted, while paralyzing the major capital in agriculture – land – for lack of the required land reforms? How can people be convinced of improvement of the “investment climate” when each person can at any time see the “dysfunction” of the judicial system, the central and local Administration, and even some “regulation” structures created precisely to address the risks of abuse on the liberalized markets?

On the whole, these are issues with a “boomerang effect”, and it is where this dead end of the governance system has the most serious consequences. Today, it is patently obvious that economic liberalization suffers from a lack of political liberalization.

NICARAGUA REPORT

Arturo H. Grigsby V., Francisco J. Perez,
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i. Nicaragua is part of a trans-national analysis performed by the RuralStruc Program-World Bank. This program is intended to conduct a fresh analysis of the consequences of economic liberalization and integration on agriculture and the rural sector of developing countries, on the basis of structural changes (impacts of the new configuration of world markets and international competition on national production and marketing structures).

ii. Nicaragua's first phase report highlights the main characteristics of country trends and proposes a periodization by identifying the major processes which have shaped the evolution of agriculture, the key factors inducing change, the crucial structural factors which have significantly changed the country configuration and nature of relations between agriculture, the rural sector and the economy as a whole. The national databases from Central Bank and INEC were the main sources used for the analysis. At the same time, annual reports from Ministry of Agriculture, Industry and Trade, Finances and Credit and Central Bank were included as well. National information was compared with international databases from Economic Commission for Latin America and Caribbean, Food and Agriculture, and United Nations Development Program, World Bank, International Monetary Fund, and Inter-American Institute for Cooperation in Agriculture (OAS). The results were discussed with national studies and regional analysis, in topics such as Debt, CAFTA, Trade Liberalization, Clusters, Poverty, Migration, and Demography.

iii. Understanding structural changes in Nicaragua means understanding the last 30 years of political changes. Nicaragua's political system has gone from a market-oriented economy, before 1980s, to a state-centered economy, in 1980s, with structural reforms on land tenure, trade system and employment. After 1990, Nicaragua returned to being a free market economy and monetary policy became the central action axis for public policies, with structural adjustment and privatization as the main tools. By 2007, Nicaragua had a left-oriented government that is opposed to a market-oriented economy and privatization process.

Place and role of agriculture in the national configuration

iv. Nicaragua's path of development has been defined by its agricultural sector throughout history: cattle and indigo producers (before 1890), coffee producer (since 1890), agro-industrial country (bananas, cotton, coffee and sugar) (after 1950s). Contrasting economic models have been implemented including the modernization of economy (1950-1979), state-centered model (1980 -1989), and free market-oriented economy (1990-2006). Nowadays, it is expected to have a political and economical model change. By 2000s, agriculture was the most important economic activity for its contribution to GDP (17 %), employment (34 %) and share of total exports (80 %). Agricultural share of total exports in the last 15 years (70 – 80 %) is a clear trend of the role that agriculture has played in the Nicaraguan economy.

v. According to the National Census (2005), Nicaragua is in a demographic transition. Rural population represents 44 % of total population and 40.4 % of total EAP. Based on the Agrarian Census (2001), there are 200,000 farms of which 59 % are subsistence families, 31.7 %

peasants, 6.6 % farmers and 2.7 % agrarian capitalist. Nicaragua can be divided into six macro-regions with different socioeconomic dynamics, since productive infrastructure, land distribution and agricultural potential are specific for every one of them. By 2005, agriculture generates 570, 820 jobs which represents 34 % of total occupied population and 33 % of total EAP (INEC, 2006).

vi. Nicaragua is part of the HIPC initiative and public policies are focused on poverty reduction and debt services. Expenditures in the agriculture sector represent 6 – 7 % of total public expenditures. A national strategy for development has been developed based on productive clusters, specifically: coffee, peanut and soybean, dairy, meat, vegetables, grains and shrimp. This strategy pretends to increase agriculture contribution to GDP, employment and exports as the main way to reduce rural poverty.

vii. Trade liberation has opened regional markets, and Central America is the main partner for agricultural exports for Nicaragua. The USA is the second partner and a free trade agreement has been signed. Nicaraguan tariff protection is the second lowest in the region after El Salvador. By 2021, it is expected that the average tariff will be 1.6 %. Nicaragua has signed FTA with Mexico and Chile and it is negotiating with Canada, Taiwan and European Union.

The structure and evolution of agricultural and agrifood markets

viii. In the 1980s, there was a strong public intervention in order to control trade and distribution of products and inputs. The Sandinista government developed several institutions for trading coffee, rice, cotton, meat and sugar. After 1990, price controls were eliminated and market institutions were privatized; as a result, commercial chains were reconfigured. Currently,

agricultural production is trade by market mechanisms of supply and demand. There are no controlled prices or direct public intervention for fixing prices.

ix. Agricultural product prices have been unstable over the last 16 years. Gourmet and organic coffee have offered alternatives with higher prices. Meat, rice, peanut and sesame prices have been relatively stable, but the general tendency has been downward since 1999. The prices of inputs such as nitrogen-based fertilizers are linked to petroleum prices, which are currently rising. As a consequence, the terms of trade for agricultural production have been deteriorating with every passing year.

x. Export products value chain such as coffee, meat, sugar, sesame and peanut tend to be monopolized either in the processing and/or exporting process. Infrastructure facilities for cleaning, peeling, parchment stage, cutting, and packing tend to be concentrated in few economic groups. There is a regional integration process through foreign investment in products such as peanut, sesame and cheese. There are initial levels of integration into global networks such as Starbucks (coffee), and Cargill (poultry and pork) and Walt-mart through Hortifruti (fruits and vegetables).

xi. Traditional markets tend to dominate domestic trade; however, supermarkets are increasing their share of vegetable markets. Supermarkets are part of a global integration with USA network, mainly through Walt-mart. A regional company Horti-fruti tends to monopolize supermarket supply of fruit and vegetables. This company belongs to the Walt-mart group as well.

xii. After 1990, the agricultural input market is controlled, an oligopoly imports and distributes 70 % of seeds, fertilizers and pesticides. Nitrogenous fertilizers and

pesticides are the main intermediate imports for agriculture. Financial markets are developed with commercial banks and microfinance institutions with approximately US\$ 220 million in agriculture loans, covering between 15 and 20 % of producers. However, credits are mainly for the short-term and with interest rate higher than 25 %. The new government will have a public intervention on rural finances market, but the implementation process is not clear.

xiii. Nicaragua has a dynamic land market, although there are serious property conflicts. Land prices vary from US\$ 4 – 7,000/ha, at the well-connected pacific areas, to US\$ 60 -80/ha, at the new agricultural frontier. In the next decade, land will be a scarce resource and an aggressive land concentration process will be triggered.

xiv. Agricultural extension and agricultural insurances markets are not developed. Extension programs are subsidized by public funds and international cooperation. There are no public policies to create an insurance market, and this is a serious restriction for a farm-contracting system.

xv. Approximately 30 to 40,000 persons from rural EAP find no job in agriculture, every year. According to the National Census (2005), approximately 9,000 new workers enter rural EAP every year. Agriculture should generate 40,000 new jobs every year in order to hire this new economic population.

Segmentation of production structures: trends observed and consequences

xvi. The agricultural sector has developed in an international context of prices crises (cotton, coffee, sesame, and peanut) and commercial liberalization (Economic Integration, Free Trade areas). At the same time, agriculture has adapted to internal factors, such as demographic transition,

with a reduction in rural population share, land property conflicts due to several agrarian reform processes, climate change with high vulnerability to droughts, public policies focused on attracting investment to services and exporting production zones, and high level of open unemployment and informal sector.

xvii. After 1990, international and domestic trade has been reconfigured since public institutions were dismantled. International prices crises, free market policies, property conflicts, high levels of unemployment, and large periods of droughts generated a new socioeconomic context for rural families. Nicaragua is in a transition phase, rural population growth has decreased, but it is not enough to reduce pressure on natural resources, thus, internal migration will continue. In the short-run, fertile land and water sources will be scarce.

xviii. Depending on the social sector, (rural workers, subsistence families, peasants, farmers or agrarian capitalist), families have adapted their economic units to the new context. With some crops, such as coffee, peasant and subsistence families can benefit from NGOs, international cooperation and public institutions in order to integrate into alternative markets. In other products such as cheese, subsistence families, and even peasants, might be excluded from the quality value chains, since they have no capital to meet all requirements. They can have access to credit, but it is short-term and includes high interest rate, a situation that acts as a disincentive on investment in cattle.

xix. It can be stated that there are processes of segmentation in rural families. There are social sectors that have been integrated into the new commercial circuits. There are social sectors, mainly subsistence families and peasant, who have been excluded from certain new commercial circuits. There is a

need for public policies to facilitate technical changes in order to accomplish quality requirements such as: vaccines, productive and gathering infrastructure.

Identifiable risks and impasses, possibilities for adaptation and restructuring processes

xx. Three main obstacles for rural families are discussed in this section: poverty, the extensive path of agriculture and migration. Rural poverty is a serious limitation for technical change, investment and market integration of rural families. Poverty is a condition that forces subsistence families to use labor-intensive practices and migrate. Internal migrations tend to be limited for limited access to land. The New agricultural frontier in at the limit of natural reserves cores, indigenous communities and swamps of the Caribbean areas. International migrations have been an exit for the urban and rural crisis; however, new regulations on Costa Rica and USA will block migrant flows.

xxi. The extensive path of the agrarian system is incorporating 106,000 hectares each year into agriculture. It is an unsustainable path which is consuming all the fertile land. During the first stage, this factor will block internal migration. During the second stage, it will trigger an aggressive land concentration process in which subsistence families will be the most vulnerable. The extensive path is to produce an increase in yields without technical practices. Subsistence families tend to rely on natural soil fertility and after two or three years, yields decrease significantly. Public policies to restrain this extensive path, such as a progressive tax on land tenure, might force an intensification of cattle producers at the Old and new agricultural frontier.

xx. Intensification is an important exit for rural families; depending on their

system, families might be integrated into fair trade, quality and organic markets. Technical change will increase yields, producing higher volumes in the same area. It is necessary to norm quality standards for agricultural product and to promote environmental practices for production. At the same time, develop a series of minimum requirement (infrastructure, inputs,

xxiii. Temporal migration has been an important exit for rural families. Temporal migration allows families to migrate in harvesting season to Costa Rica and/or El Salvador in order to obtain funds for sowing in May. For these activities, families organize their labor force and funds to take advantages of migration. Alternatives for saving and investment should be promoted by public policies, in order to generate accumulation process on families.

SENEGAL REPORT

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Meeting the Challenge of Youth Employment

Senegal's population grew in excess of 11 million people in 2006 from 2 million in 1950; this growth, however, has slowed. Currently, half of the population, largely young and un-schooled, lives in urban areas and nearly 70 % depend directly on the agricultural sector. By 2025, Senegal's population is projected to be between 16 and 17 million people.

In the very near future, 200,000 youths will appear on the job market each year. A majority will come from farming families and will thus be ill-prepared to enter the economy. Meeting the challenge of youth employment will depend on the capacity of the country and its political and economic leaders to bring about agricultural transition. This will be based on an increasingly greater merger of the urban and rural farming economies. The drivers of this merger will include high and sustained productivity gains, and improvements in the incomes of the rural population. Success will depend first and foremost on the capacity of the state to formulate and implement a comprehensive policy, with the involvement of all the economic stakeholders.

Persistence of an Economy Dominated by Groundnut Production

Under French colonial rule, agriculture specialized in the production of a single crop. Colonial rule provided Senegal with an administrative, educational, health and transport infrastructure, and to a certain extent, industrialization. However, it also introduced a number of disadvantages:

food production was abandoned in favor of rice and wheat imports for consumption in urban areas. Moreover, livestock production was not developed. Groundnut production led to the rapid clearing and occupation of farmlands; infrastructure was concentrated in the economic capital and in the groundnut-producing area, thus rendering the outlying regions inaccessible and more or less condemned to subsistence farming, in spite of attempts to develop the irrigation potential of the Senegal River valley. The attempts, shortly after independence in 1960, to reduce this heavy dependence on groundnut production ended in failure. The financial needs of the state, the end of preferential prices on the markets of the former colonial power, and the economic interests in the sector forced the state to blindly pursue this option, at a time when groundnut oil was becoming increasingly less competitive on the world market.

Extroversion of the economy, based on groundnut production and exploitation of mineral and fishery resources led to low GDP growth, as it was subjected to the unstable climate and markets, and was often lower than population growth. Continued extensive and mining agriculture, in spite of remarkable success in the use of selected seeds and mechanization of farms, also resulted in very low contribution of food and cash crop production to economic growth.

As from 1980, in view of the scale of the ensuing macroeconomic imbalances, Senegal embarked on a protracted structural adjustment process under the supervision of the IMF and World Bank. The early agricultural sector adjustment measures (stopping of the agricultural program and liquidation of the marketing board - ONCAD - in 1979 and 1980 and the New Agricultural Policy in 1984) did not produce the expected results with respect to agricultural supply. The PASA

and the devaluation of the CFA Franc in 1994 had a positive impact on public finance and external trade, but it was short-lived. Economic liberalization did not modify the orientation and structure of Senegal's external trade. Exports were hardly diversified, and were based on fishery resources, by-products of phosphate, and groundnut oil. Imports were increasingly dominated by food products. The bulk of trade is still carried out with the European Union, though there has been some progress in trade with African countries. Liberalization enabled the state to clean up public finances, but it did not prevent an explosion of poverty, especially in rural areas (about seven out of ten households are poor, and 80 % of poor households live in rural areas), an extension of the informal sector, chronic under-employment, long-term unsustainable food dependency, the country's dependence on official development assistance and remittances from abroad, and the subsistence of mining and extensive agriculture with very low productivity.

Remarkable Capacity of Family Farms to Adapt to their Climate and Economic Environment

Senegal's agriculture is dominated by family farms. It is only in areas with possibilities of irrigation and easy access to the main urban market of Dakar and export that commercial and industrial farming are developing, but they occupy less than 5 % of the crop area. Family farms are predominantly rain-fed in a semi-arid zone, with irrigation limited to less than 2 % of the crop area; 19 % of the country's surface area is arable land, which is 3.8 million hectares, of which only 2.5 million hectares are effectively farmed (65 %). The heterogeneous nature of farming is mainly influenced by the level of rainfall, the soil type, possibilities of irrigation, and access

to urban markets.

In the groundnut-producing area, the farming systems associate groundnut, short-cycle cereals, and millet and sorghum—that have taken the place of long-cycle cereals—with the breeding of small ruminants and cattle. From 1960 to 1998, the ratio of groundnut and millet/sorghum production was reversed. Groundnut, which hitherto occupied 64 % of the crop area as opposed to 29 % for millet, now covers only 28 %, down from 64 %. Cattle breeding, which was as significant as sheep rearing, now represents only one quarter of total livestock, even though some progress has been made. Thus, farmers have adapted to droughts and market uncertainty by giving preference to short-cycle cereals and groundnuts, short-cycle livestock, and horse draught cultivation. They have also diversified their crops for the same reasons: cowpea, watermelon, bissap, and cassava. Remarkably, farmers have succeeded not only in increasing the area covered by cereals, but also in increasing yields, while groundnut output has dropped.

- The groundnut-producing area has most of the "marabout farms" that have enjoyed easy access to land, agricultural inputs and loans, and that pursue religious, family and profit-making objectives.

- In the southern regions, the agro-pastoral system is virtually the same as in the groundnut-producing area, but here, cotton competes with groundnut, whose cultivated area is nonetheless, on the increase. Available pastureland has made it possible to breed a sizeable number of cattle. Maize production is also increasing steadily in the region. Lowland rice is grown where the possibilities exist. There is also diversification into dairy farming and banana cultivation where water is prominent.

- In Lower, and part of Middle Casamance, the farming systems are traditionally based on mangrove rice farming, harvesting in bolongs, and unwatered cultivation of long-cycle cereals. Here also, there has been remarkable adaptation to change. The invasion of rice farms by salty water has led to a sharp decline in rice production, to the advantage of unwatered crops; groundnut, millet/sorghum, maize, and significant development of horticulture, in particular fruit-tree farming. Farmers, who traditionally limited themselves to the cultivation of bolongs, have also become sea-fishermen.

- In the sylvo-pastoral zone, there is a dominance of livestock breeding, especially of cattle, which is associated with little millet and groundnut cultivation, and harvesting. The difficulties involved in moving cattle in the flooded pasturelands of the Senegal River and the southern-most regions have led to a reduction in the size of herds.

- In the Senegal River valley, there are marked differences between the delta and the middle and upper valley. In the delta and around Guiers Lake, the farming system, with the pumping of water and mechanized cultivation, gives preference to the double cropping of rice over extensive areas, with full control of water flow. Diversification is developing with special varieties of rice (scented rice), industrial production of tomatoes, onions, potatoes, and sweet potatoes, increasingly on private smallholdings. Stockbreeding encounters difficulties here as a result of drastic reduction of the floodwater pasturelands. Commercial farming is developing with some difficulty. There are also two or three agro-industrial plants in the area. In the middle and upper valley, the small size of farms has forced the farmers to partially maintain their traditional systems which associate flood-recession crops with rain-

fed crops and stockbreeding, in addition to rice farming

- In the Niayes zone, there is a great diversity of farming systems; family farms coexist with commercial farms and a few agro-industrial plants. The closer to the Dakar urban market, the more the family farms reduce in size and practice intensive market gardening targeting the city. Sharecropping, leasing and sale of land are normal practices, not to mention the flower growers who operate even in the tiny intervening spaces along the roads in the heart of the city. Moving from Dakar to Saint-Louis, the breeding of small ruminants and cultivation of rain-fed crops reappear, associated with market gardening. Some family farm systems also include artisanal fishing. In addition to family farm systems, commercial farming has also developed and diversified, with a few large units almost entirely oriented toward export to European markets; these units control the horticultural sector upstream and downstream and also conclude contracts with small-scale market gardeners. Enterprises specialized in fruit-tree farming for the urban market and export are also developing, alongside enterprises specialized in intensive stockbreeding for meat and milk. This commercial farming has fostered the strong growth of a class of agricultural wage-earners.

For approximately 50 years now, Senegalese farmers have been trying to cope with a marked and generalized drop in rainfall over two to three months each year. This unfavorable climatic situation has had serious consequences on the farming systems and natural resources. The farmers also have to cope with the uncertainties of markets as the population growth rate remains high. The adaptation required forces them to exert growing pressure on natural resources, and thereby degrades these resources. The salty nature

of the land around the mouths of the Senegal, Sine Saloum and Casamance Rivers has led to substantial loss of soils and fishery resources. The effects of rain and wind erosion on the soil have worsened because of cultivation and breeding practices observed in the Niayes zone, where advancing coastal dunes have buried low-lying market garden farms. The steady increase in livestock population is causing a degradation of pasturelands, while the extension of cultivated areas reduces their size. The non-management of fishery resources has led to stagnation, and even reduction, of catches in the past few years, whereas they largely meet the animal protein requirements of the population. Extensive farming practices without organic replenishment have led to impoverishment and acidification of soils, and therefore a decline in crop yields. The pressure exerted on forest resources, mainly to meet the service and energy needs of the urban and rural population (90 % of the energy needs of households) and government policies that favor land occupation for agricultural purposes, reduced wood potential by 9.2 % between 1985 and 1995.

Within this context, agricultural performance, in terms of production, has not fallen below expectations. Overall, the areas under cultivation have not changed much; they've increased by 3.9 % between 1960-1970 and 1970-1980, and then dropped by 4 % between 1970-80 and 1980-94. However, as observed above, the main crops have witnessed reverse growth trends; decline in groundnut production except in the south and growth in cereal (millet/sorghum, maize, and paddy rice), cotton and cowpea production. That represents a major break in the production strategy of farmers, who give preference to food security for their families. As observed, the break is accompanied by diversification of production in all farmland areas in response to climate

change, land saturation, the demands of urban markets, and low investment in labor and inputs.

In spite of its great vulnerability to climatic factors, stockbreeding, hitherto a safe investment, is increasingly becoming a speculative investment. Stockbreeding practices have diversified to include the development of cattle and sheep fattening to meet the demands of urban markets, intensive poultry farming in peri-urban areas, niche dairy production in peri-urban areas, development of cattle draught cultivation and above all, horse draught cultivation, which is a sound investment for farming and transport activities in rural and urban areas in the dry season. Farmers who have the means to invest in cattle breeding can, thanks to the production of manure, also engage in intensive cereal cultivation, with cereal by-products recycled into stockbreeding. Thus the development of stockbreeding demonstrates the capacity of farmers to protect themselves against risks, to secure financial incomes with increasingly regular earnings, and for the bigger farmers who often have substantial non-farming incomes, to make high profits in the intensification of their agro-pastoral system.

Difficult Liberalization of the Agricultural Economy

The Senegalese government has been very reluctant in completely liberalizing the agricultural economy and privatizing state-owned enterprises. Some experts point out that "Senegal embarked on adjustment reluctantly." Launched in 1980 with the liquidation of the Agricultural Products Marketing Board (ONCAD), the process ended only in 2006 with the privatization of the largest domestic oil processing plant, SONACOS. In spite of its commitment, the government is still hesitant about carrying out land reform and recognizing

the real rights of family farm holders. The horticulture, cattle/beef and fishery sectors have always been liberal, but the government has not given up its intention of subsidizing the price of groundnut paid to farmers, and applying protective measures to imports, even though facts show that such measures are not effective as they do not encourage productivity among the beneficiaries.

Within this context, modifications and restructuring of the produce markets and factors of production, with the emergence of new stakeholders and institutional coordination mechanisms, are slowly taking place. Changes to the major cereal and cash crop sectors (groundnut, rice, cereals) have turned out to be inefficient due to a lack of or inadequacy of accompanying structural mechanisms. The market for inputs such as seed, fertilizer and agricultural equipment markets are not organized. The erosion of the groundnut seed capital is a good example. The horticulture sector is more dynamic, with the emergence of private firms in the supply of inputs and loans, and the development of production and marketing contracts. As a result of farmers' diversification strategies, new sectors are also emerging. Upstream, new distribution circuits are developing, with the emergence of supermarkets and creation of processing SME/SMIs. However, this phenomenon is not documented. The same applies to the higher levels of the traditional cereal and harvested fruits sectors, where the informal sector holds sway, driven by the expansion of catering services.

There is still no real land market, though sporadically in the peri-urban areas, legal transactions are commonplace. This situation has thwarted all attempts to restructure the farming systems, and increased pressure on natural resources. The market for harvested fruits, wood, and

charcoal is still subject to drastic and ineffective regulations, with quotas for felling, transport licenses, etc.

Regarding exports, only the horticulture and fishery sectors seem to be dynamic, because they need to adapt to the constraining standards of the European Union with respect to quality, pesticide residues and traceability.

What are the implications of liberalization on production structures? Our analyses show many factors in the development of farm structures, and it is very difficult to separate them.

Parcellation of Family Farms and Emergence of Commercial Farming

The family farm system has led to a permanent process of fragmentation of the family farming unit. Within a context of subsistence farming and almost limitless availability of land, the structure of farming units depends mainly on the availability of labor. The size of the family is thus the main factor that determines the number of farms. However, social status is useful in mobilizing labor from collaterals and seasonal workers. Some people, who control forest lands because of their family status, are better off. The introduction of commercial crops has led to the individualization of plots, factors of production, production activities, incomes and consequently, decisions within family farms. Family dependants, especially men, but also women, are slowly becoming independent of the head of the family farm. The introduction and spread of animal draught cultivation in the 1960s and 1970s, and the land legislation of 1964 that abolished customary rights in favor of the state, accelerated the process. Animal draught cultivation makes it possible to expand the crop area per farmer, while the land legislation blocks any process to reallocate land.

Thus, where land is scarce, the segmentation of farm units brings about differentiation of family farms, since the process entails a sharing out of family land each time. This internal process is at the origin of the parcellation of family and forest lands, and the individualization of family farms. The outcome is that small family farms are common. Between the agricultural survey of 1960 and the agricultural census of 1998, the number of farms of less than 1 hectare declined from 21.4 % to 20.9 %, and those of less than 3 hectares 58 % to 50.7 %, but the average cultivated area per farmer for all family farms declined 1.07 hectares to 0.57 hectares. The proliferation of micro-family farms is actually the most noticeable and most disturbing aspect of farming structures. On the assumption that a crop area of 4 hectares is required by each farmer for rain-fed and cattle draught cultivation to provide a good level of income for his family, which was the objective set by agricultural research in the 1970s, it is noted that the majority of rain-fed farm holdings cannot be viable without substantial livestock and non-agricultural activities.

As we pointed out above, family farms in all the agricultural regions have developed great capacities to adapt to changes in their environment, such as reduction of available land, climatic conditions, and market liberalization. The studies we conducted in the Djourbel and Fatick regions confirm that non-farming activities are the main factor of differentiation of family farms. For smallholdings, such activities enable them, above all, to meet basic needs, and they probably provide means of survival to many farmers who have no capacity to invest in improving their agricultural productivity. On the other hand, for those who have sizeable land at their disposal and substantial non-farming incomes, investing part of such income in farming, intensive cattle and sheep

breeding and intensive cereal cultivation may be profitable. This is all the more apparent as the availability of land and money makes it possible to keep family labor, hire seasonal workers or talibes (pupils of Coranic schools). Without in-depth studies on the issue, we can believe that these are mainly marabout farm holdings or those owned by retired employees, transport operators and traders/farmers.

The issue of segmentation or differentiation of farm holdings is viewed differently in peri-urban intensive and irrigated farming areas with easy access to markets. In the Niayes zone, and to a lesser extent the Senegal River delta and around Lake Guiers, commercial farming coexists with family farms. Such commercial farming tends to diversify. Alongside the major capital-intensive businesses that employ workers and are specialized in the export of fresh produce to the European Union, there are intensive breeding enterprises, dairy farms that provide supplies to urban markets, fruit-tree growing enterprises targeting a mixed, urban/export market and a few agro-industrial concerns. Family farms themselves can be differentiated. One can distinguish between those that specialize in market gardening and sell part of their produce to exporters, those that target only urban markets for African market garden products, and those that grow flowers, etc, with various land use status (owner, sharecropper, or leaseholder).

There are hardly any studies on the segmentation or differentiation of family farms. While existing studies underscore the structural importance of non-farming activities and incomes, they do not document such activities and incomes adequately and do not take account of them in the typologies proposed. One recommendation would be to conduct, in the short or medium-term, a

comprehensive census of farm holdings, irrespective of their status, while taking into consideration the land rights, the full range of activities and incomes: cultivation, breeding, harvesting and non-farming activities.

Multidisciplinary studies at the regional level are required to provide a better understanding of farm strategies. The resources for this study were not enough to systematically consult the relevant literature.

The Agricultural Economy at a dead End

The main conclusion of our study is that in spite of the development of highly effective strategies, tailored to the unfavorable climatic conditions, scarcity of land and difficult access to markets, farmers and the agricultural economy are at an impasse. We will consider the impasse in terms of the five main purposes of agriculture.

-Providing income to farmers: Senegal's agriculture today is only partially subsistence farming. Thus, it is expected to provide monetary income to households to enable them to meet their basic needs and make investments. Liberalization did not boost agricultural production, in terms of productivity gains for farm holdings. Family, rain-fed and extensive farms are still largely in the majority. Their diminishing incomes do not allow them to meet basic needs or make investments. Most poor farming households are in this category of farms. The procurement of animal draught equipment, fertilizers and selected seeds remains at an extremely low level, which does not guarantee the replacement of farm equipment, the maintenance of soil fertility or the maintenance of seed capital.

- Feeding the population: Liberalization did not revive food production in the

broader sense. Admittedly, family farmers refocused on cereal production and stockbreeding, but without a dynamic urban market, demand for their products remains low. Senegal continues to increase food imports to meet the needs of its urban and rural populations. The rate of cereal self-sufficiency has fallen below 50 %. As far as food self-sufficiency in West Africa is concerned, Senegal is the most dependent country per capita. Such dependence undermines its investment capacities, and consequently its development.

- Creating jobs and self-employment: At this stage of the country's development, the agricultural sector remains the leading sector in terms of creating jobs for youths who enter the labor market. Its development should generate job-creating processing services and activities both upstream and downstream. Yet in the rural areas, very few young people believe that their future lies in agriculture or in the village. Most of them dream of moving to towns or out of the country.

- Providing foreign exchange to the economy: The decline in agricultural and fisheries exports, except for horticultural exports, at a time when food imports are on the increase, is a cause for concern. The devaluation of the CFA Franc in 1994 did not have a sustained impact on exports.

- Managing natural resources in a sustainable manner: Farmers' incomes do not permit them to adjust their extensive and mining agricultural practices, and thus maintain soil fertility. Soil salinization has not been checked. In spite of state subsidies for the use of butane gas in households, the felling of trees for timber and firewood continues to reduce the forest area.

The root cause of the poor performance of Senegal's agriculture lies in the gap, or rather the contradictions, between the

official agricultural policies and the reality on the ground and the farmers' own strategies. As part of the structural adjustment policies, the state considerably divested itself from the groundnut producing area and the southern regions of the country, and concentrated its investments in irrigated farming, mainly in the Delta area of Senegal River. It also postponed the privatization of SONACOS, and consequently the restructuring of the groundnut sector. The option chosen for the main agricultural sector, which provides monetary income for most farmers, was to import vegetable oil for local consumption, and to export groundnut oil. The liquidation of SODEVA, hitherto in charge of agricultural extension in the groundnut-producing area, only became effective in 1999, just before the creation of ANCAR, which was thus delayed. The liberalization of rice imports was also postponed for some time.

Apart from cotton farmers, farmers in the rain-fed system remained for nearly 20 years with hardly any agricultural extension and effective research services. The state grew tired of sustaining valley rice cultivation and mangrove rice cultivation in Casamance, and of subsidizing prices in the groundnut sector. However, the farmers received no support in their efforts to adapt their agricultural strategies to new realities. The structural constraints of rain-fed farming were not diagnosed.

The gap between the farmers' strategies and official policies persists, and has probably widened. The issue of the structure of rain-fed farms has still not been taken into consideration. The required land reforms have been postponed. The REVA Plan ("Return to Agriculture") launched in 2006 and the "Fast-track Growth Strategy" proposed by the present government lay emphasis on irrigated

areas, mechanization and horticulture through the development of commercial agriculture, at a time when family farmers engaged in rain-fed cultivation are giving priority to dry cereals, stockbreeding and diversification. The infrastructure policy gives priority to the urban infrastructure of the capital, whereas the major constraint on the entire southern region - which has a good agricultural potential - is access to markets. Priority is given to horticultural exports, whereas the vast majority of farmers aim at home consumption and the local market.

Getting out of the impasses

Solutions to address this impasse, where the agricultural economy finds itself, require that the state revise its vision of agriculture. Most farmers are engaged in rain-fed farming, and will probably maintain that option for the foreseeable future. They make up the majority of poor farmers. They have no capacity to invest and improve on their productivity. They have demonstrated their capacity to adapt to drought and markets, but at the cost of the deterioration of their economic situation. They give priority to the production of cereals and livestock, that is, items consumed by the Senegalese.

The state should target small-scale, rain-fed farming as a priority. Instead of defining its own agenda and trying to develop a form of commercial farming, the state should concentrate on family farms that employ the majority of Senegalese citizens, so they can continue to supply the markets, generate income and offer employment opportunities to the younger people. The stakes are high, and that option could be more profitable than groundnut oil exports. In the long-term, Senegal could also carve out a niche for itself on the West African market as an exporter of quality beef.

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