Women, technological change, and the development of underdevelopment: the African experience

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Ms. Roslyn Dauber  
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600 Pennsylvania Avenue SE  
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Dear Roslyn:

I am enclosing the draft article I wrote on Women and Technology along the lines of our discussion two weeks ago.

Please let me know if it is what you had in mind. I hope it's OK.

Thank you, too, for sending me Elise Boulding's paper. Clearly, there is no serious overlap.

Looking forward to hearing from you.

Sincerely,

Ann Seidman  
Nancy Duke Lewis  
Professor
WOMEN, TECHNOLOGICAL CHANGE, AND THE DEVELOPMENT
OF UNDERDEVELOPMENT:
THE AFRICAN EXPERIENCE

By Ann Seidman
Women, Technological Change, and the Development of Underdevelopment: The African Experience

Analysis of experience the world around has exposed a tendency for the status of women to decline with the introduction of new technologies in the process of development. This brief paper will argue that this is an integral facet of the complex interrelated phenomenon which several political economists have identified as the process of development of underdevelopment. The paper will focus primarily on evidence drawn from Africa, where the author conducted research and taught in universities for almost a decade. The underlying explanation, with appropriate modifications in view of the particular historical circumstances and cultural differences, appears, however, to be more widely applicable.

The explanatory model proposed:

The basic elements of the explanation here proposed may be incorporated into an interrelated set of propositions. Together, these may constitute the beginnings of a model to explicate the way the introduction of modern technology, in the context of the larger development of underdevelopment process, contributes to the declining status of women:

1. Almost a century of colonial rule shaped institutions which functioned to: a) coerce Africans into a low paid labor force to produce crude minerals and tropical agricultural produce for shipment as raw materials for the burgeoning industries of Europe; and b) to undermine pre-existing handicrafts industries in order to open a market for surplus mass-produced goods produced by European factories.

2. The pre-colonial sexual division of labor, prevailing in many parts of Africa, interacted with colonial ideologies to foster the migration of male labor to work on European owned mines and estates, or as sharecroppers for African cash crop farmers who sold produce at low prices to European trading companies. Women remained in the underdeveloped rural areas, using outmoded technologies—typically only a hoe and a cutlass—to produce the family food requirements and raise children.

3. The limited formal educational institutions introduced by colonial regimes were designed primarily to provide a few middle level African administrators, primarily
men, and spread the Christian gospel. Few women went beyond the first grades, if they managed to attend school at all. Most never obtained the essentials for mastering the new technologies introduced in the narrow, export-oriented sectors.

4. After independence, marginally-altered colonially-shaped institutions not only perpetuated the inherited, externally dependent political economies; they also reinforced the sexual division of labor introduced in the colonial era. New governments' efforts to create "a hospitable investment climate" for transnational corporations in this context accelerated the introduction of capital-intensive machinery and equipment, further aggravating unemployment and the deteriorating status of women.

The Evidence:

To present fully the evidence available from the almost 50 countries of Africa -- a spreading land area three times the size of the United States -- would require volumes. Instead, the aim here will be to illustrate these propositions, indicate the wider range of documentation that exists, and suggest areas for further research.

Extensive studies have exposed the way the colonial institutions functioned to coerce Africans into a cheap labor force to produce low-cost raw materials for European manufactured goods.2/

The colonialists introduced institutional changes which, while varying from region to region, all aimed to ensure an adequate supply of low priced labor to produce the desired raw materials. The colonial state imposed various hut and poll taxes to force Africans to earn cash, either by selling export crops or working for Europeans for wages. As a colonial administrator explained,3/

All that needs to be done is for the Administration to... introduce the Native laborer to the European capitalist. A gentle insistence that the Native should contribute his fair share to the revenue of his country by paying his tax is all that is necessary on our part to ensure his taking a share in life's labour which no human being should avoid.

European settlers took over the most productive land near the major transportation routes, carving out vast estates in east, central and southern Africa:
seven million acres in the 'White Highlands' of Kenya; 4/ 20 miles on both sides of the railway through the heart of Zambia (then Northern Rhodesia); 5/ and 50 6/ and 87 7/ percent, respectively, of the entire land area of Southern Rhodesia (soon to be Zimbabwe) and South Africa. European-owned mines and estates there required African labor, so colonial marketing and credit systems 8/ discriminated against Africans' efforts to produce and sell export crops. They were given no option but to work for wages to earn the tax.

To prevent competition with imported manufactured goods, as well as to restrict Africans' alternative employment options, colonial laws prohibited ancient handicrafts and industrial pursuits. 9/ The mine companies, settlers and trading firms invested part of the profits they accumulated by their systematic exploitation of African labor, agricultural and mineral wealth, to introduce some of the world's most advanced technologies in the export sectors. 10/ On the one hand, they augmented their African exports to capture increasing shares of the world market, simultaneously chaining African economies securely to its unpredictable fluctuations. On the other, they created an expanding market for the machinery and equipment produced in the metropolitan country factories. But their increased output went, not to better the lives of the low-paid Africans, but to produce copper, oil, seeds, coffee, cotton, tea -- the raw materials needed for their factories back home to raise their living standards to the highest in the world.

This distorted pattern of introducing new technologies not only systematically fostered underdevelopment, low productivity, and growing unemployment in Africa; it also functioned to disadvantage women. The pre-colonial division of labor had tended, in most instances, to leave to women the tasks of raising children and growing food crops. 11/ Men had formerly helped clear the land, construct irrigation ditches, build and repair houses -- what might be called 'capital investments.' They also hunted, cared for cattle, and provided protection. This mutually sharing relationship, growing out of the family members' struggle to survive against the harsh realities of nature, had tended to endow women with significant decision-making powers about what to produce and how to produce it. Men and women had worked together, using long-established technologies, to produce iron tools, salt, soap, textiles. Women worked in the copper mines in Central Africa centuries before the Europeans even
dreamed of the region's rich mineral wealth. In West Africa, women carried their produce to market, some of them establishing extensive political as well as economic influence through their resulting trading connections.

The colonialists brought with them their own beliefs that women should stay home with the children. They primarily sought male wage labor to do the heavy work on their mines and farms. The Europeans' preconceived perceptions fit nicely with the emerging colonial pattern in which women stayed home in the rural areas, using pre-existing technologies to grow the necessary food and raise the children. This provided a convenient rationale for paying the men wages barely adequate to support themselves, alone - less than the amount Marx held even capitalist industry must pay: the minimum socially necessary to cover the cost of subsistence of the workers plus the next generation of labor power.

Exclusion of women from employment in 'modern' wage jobs was reinforced by restrictions on their entry into colonial schools established for lower level African civil servants and technical personnel. The few girls who were admitted to the formal educational system often learned little more than to read and write -- considered vital to pass on the Christian message to their children -- and 'women's work' like home economics to make them better housewives and mothers. The schools taught few men and almost no women the mechanical skills required to handle the modern machinery and equipment introduced into the export sector.

The loss of male labor and their essential 'capital' inputs led to the deterioration of pre-existing technologies as women struggled alone to maintain food output. An integrated cattle-grain complex, for example, had supported what Livingstone described as a 'land of milk and honey' in the Barotse Kingdom of Central Africa, back in the 19th Century. As the men were forced to migrate out of the villages to seek wage employment on the copper mines and line-of-rail estates, the ancient irrigation channels disintegrated. This process became self-perpetuating, for the next generation, unable to regenerate past productive activities, left in ever greater numbers. Today, the region is the poorest province in Zambia.

Though the details differed in other parts of the continent, the overall development of underdevelopment process was similar: Women, using little more than
hoes and cutlasses, struggled to maintain food output on eroded, worn pieces of soil as the colonial institutional structure pushed the best lands and male labor into production of export crops and mineral wealth.

The attainment of political independence by almost 50 African nations in the 1960s and 1970s did little to alter the basic institutional structures shaping the impoverished economies with their distorted sexual division of labor.

New government ministries, now headed by male African elites, continued as the lineal descendants of the former colonial departments. They failed to formulate long term development strategies to restructure the inherited, lopsided national economies. In country after country, they pragmatically expanded government expenditures to build new schools, roads, hospitals, ports, bridges, the infrastructure urged by conventional wisdom to attract private investment in productive activities on farms and in factories. Since domestic private enterprise had little capital or 'modern' skills, African governments competed to attract transnational firms by offering generous holidays, tariff protection, and industrial parks.

Marginally-altered colonial institutions, combined with government policies to attract foreign capital, tended to aggravate the inherited sexual division of labor's impact, further disadvantaging women, both in agriculture and in industry.

In agriculture, government development ministries, together with little-changed marketing and credit systems, continued to foster expansion of export crops. The primary difference was the new African governments' emphasis on encouraging African peasants to grow more for export to obtain more foreign exchange to finance the imports on which their externally-dependent economies had come to rely. This fit well with the increasingly evident preference of transnational trading firms for encouraging Africans themselves, rather than European settlers to grow export crops: The peasants and the national economies bore the risks when world prices dropped. The transnational firms could shop around to buy from the countries offering the lowest prices. Export crops multiplied, but national incomes remained low.

The expansion of peasant export crops, while contributing little to higher national living standards, further undermined the status of women in the rural areas. The
extension agents of the new governments, like those employed by the colonial administrations before, were almost always men. They taught rural men, rather than rural women, about new farming techniques. Where landholdings were individualized to foster private incentives to expand output, the title was usually registered in the men's names, even where women did most of the work. 23/ The banks, even state-owned banks, typically advanced credit only to the male heads of household. 24/ Men almost invariably managed the boards and cooperatives established to market export crops. Sometimes, they alone had acquired the necessary education to handle the books. In other cases, the prevailing ideology dictated that men assume these tasks.

In Kenya, 25/ for example, the government introduced measures to organize a cooperative to acquire inputs and market pyrethrum. Disappointingly, production declined. Closer examination revealed that, although cooperative by-laws specified males, presumably the household heads, as members, the women had actually been producing the pyrethrum. Not surprisingly, the women, on discovering that payment was to be made to the male cooperative members, reduced their output.

The post independence governments did make efforts, especially after the drought and widespread famine of the early 1970s, to encourage expanded food production. But, still, the inherited institutional-ideological matrix tended to disadvantage women, although they were the traditional food producers. In Zambia, for example, the agricultural ministry did employ women as extension agents to help women food farmers learn new techniques. 26/ In the Mumbwa area women flocked to newly-available courses, making complex family arrangements to care for their children. But when they sought to borrow funds to finance the necessary new inputs they had learned about, the rural credit agencies persisted in lending money to males as the presumed household heads. Only the more well-to-do male farmers could buy more complicated machinery and equipment, even for food production; and almost invariably they operated it themselves or hired male day laborers.

A contradictory situation emerged in rural Zambia: 27/ The wives of the wealthiest farmers tended to lose all responsibility for production, becoming increasingly dependent on their husbands. Only in the poorer families, still struggling for bare survival with inadequate tools and little or no fertilizer or irrigation water, could women share more equally with men in decisions about production. Gradually, as larger scale farms introduced new
technologies, the options of women in poorer families to contribute to the families' needs tended to be reduced. As more successful male farmers acquired machinery and hired labor to expand their output, they tended to monopolize local markets for foodstuffs, ousting women who had previously headloaded their produce, or carried it on local busses, for sale in nearby villages or urban centers. Eventually, it appeared probable that the male members of these marginal farm families would need to leave for the cities in search of wage employment. The women might stay behind, using the inadequate tools they had to scratch what little they could from worn earth to meet family food needs until -- if -- the men found adequately paying jobs. When they followed their men-folk to the urban centers -- and increasing numbers did -- they almost invariably joined the unemployed or underemployed living in illegal 'squatter' compounds, often without even garden plots. Urban population throughout Africa mushroomed at 10 to 15 percent a year, 28/ and shanty-towns sprawled ever more widely at the foot of towering modern skyscrapers that attested the growing wealth of the 'haves.' The women who came to live in them were typically denied any but the most menial employment. A few turned to prostitution as a source of cash in the context of governmentally-promoted tourism.

Most newly independent African states adopted policies seeking to create 'a hospitable investment climate' to attract import substitution industries, hoping to provide more productive employment opportunities for the growing numbers of urban unemployed. But the transnational corporations made by far their largest manufacturing investments in Africa, not in the newly independent African states, but in South Africa. 29/ There, the ruling white minority denied Africans all political rights. The whole apparatus of apartheid functioned to hold wages of the African four-fifths of the population below the poverty line. 30/ Official doctrine still justified low wages for men, since their wives and families were required by law to live on so-called 'bantustans' ('homelands'), restricted to 13 percent of the national land areas. There, women were expected to produce food to feed the next generation of labor, despite the fact that about 20 percent had no land at all, and most of the rest had infertile scraps incapable of supporting the family. Reliable reports told of chronic malnutrition accompanied by high disease and mortality rates. In one instance, women were depicted as eating only three times a week! 31/

In independent African countries transnational firms limited their investments primarily to last-stage assembly
and processing plants to maintain control over local markets behind government-erected tariffs. 32/ They built local plants, frequently partially financed by African governments, in order to sell their advanced machinery and equipment and pre-fabricated parts and materials for last-stage assembly and sale in the African country under a 'made-in-Africa' label.33 An electric light bulb factory provides an illuminating example of these firms' limited contribution. It imports the metal base, the glass bulb, and the filament. The only local value added is the vacuum.

These kinds of transnational corporate industries have, for the most part, played a negative role in the development process in the African host countries. 34/ First of all, they do not produce the kinds of tools and equipment at appropriate levels of technology required to increase productivity or process the crops grown either by men or women in the rural areas. On the contrary, they produce sophisticated consumer goods, formerly imported for the narrow high income urban elite, along with a few mass consumed semi-luxury items. Beer and cigarettes provide a significant proportion of the value added.

Production of rayon and nylon textiles -- instead of cotton goods woven from locally grown cotton -- and the assembly of knockdown television sets and private automobiles have become increasingly widespread, requiring the continued import of parts and materials from the associated foreign firm. The African economies have become increasingly dependent on overseas purchases, devoting more and more of their export earnings to this marginally-changed import of manufactured goods produced abroad.

Secondly, factories built in the post-independence era to produce more widely consumed necessities, like cloth, clothing, bread, and bricks, have tended to squeeze out the remaining small scale handicrafts producers, large numbers of whom were women. At independence, a few women in remote rural areas still made and sold clay pots. In more urbanized regions, many women, using simple pedal-driven sewing machines, had earned cash by sewing and selling custom-made clothing. Others baked bread for daily sales in local markets. Still others participated in small-scale and family enterprises making bricks out of local clays for local construction projects.

But urban-based planners and industrial ministries viewed production of pots, clothes-making, brick factories and modern bakeries as potential fields for government promotion of investment to spread of modern technologies.
These industries do not require much capital or highly advanced skills. The rural industries division of Zambia's parastatal development corporation, INDECO, for example, proclaimed that it was introducing 'modern' bakeries in small towns throughout the countryside. Little attention was paid to the fact that local bakers, many of them women, would no longer be able to sell their home-made produce in competition with these government-sponsored concerns. A centralized brick-making factory, using imported machinery, was proposed without regard to the probable ousting of already-existing local, labor-intensive brick-making enterprises.

Thirdly, the new industries tended to be highly-capital intensive. Transnational corporations sought primarily to sell surplus machinery and equipment, designed primarily for their large home markets; they had no intention of retooling to provide technologies more likely to meet the employment needs of third world countries. As a result, the new modern factories furnished relatively few jobs for either men or women. A modern factory to sew clothes might employ a hundred workers; but uncounted hundreds of tailors and seamstresses in remote rural areas might be put out of work. More and more men and women, fleeing rural poverty, found themselves unemployed, competing for low-paid informal sector and service jobs in urban slums. 35/ As urban under- and unemployment mounted, male plant managers and male employees, fearing female competition for the few new jobs created, exercised discriminatory practices to close factory doors to women. 36/ Even clerical and household service work in African cities continued to be done more often than not by men. Increased numbers of women found street vending, begging, and prostitution as the only ways to earn desperately needed cash.

Only a few African governments sought to attract transnational corporations into 'export-substitution' industries by offering a large supply of low-paid female labor. The highly seasonal sugar industry that pervaded the tiny island economy of Mauritius 37/ created chronic unemployment among men, and almost no jobs at all for women. The government, seeking to emulate Singapore, Taiwan and South Korea, established industrial estates where factories could locate with considerable tax and wage advantages. Women were hired for wages even lower than those men would take.

The poverty level of the Mauritian women factory workers is illustrated by the story 38/ of a U.S. factory
manager who complained the women did not produce enough. It was suggested to the manager that the women might be malnourished; if he provided lunch, they might increase output. When he said he would be willing to give the women somewhat higher wages, it was pointed out that their husbands and the rest of the family would probably consume the additional food purchased. The manager finally decided to provide lunches for the women. Their productivity noticeably improved.

Available evidence suggests, in short, that the marginal alteration of the basic institutional structures implanted in the colonial period, combined with renewed attempts to competitively expand crude exports and attract import-substitution industries, tends to further aggravate conditions contributing to the deterioration of the status of women. Inevitably, these factors lead to further impoverishment, not only of the women themselves, but of their entire families. A new kind of vicious circle emerges as their deprivation negatively impacts on their ability to provide for the next generation of labor power, boys as well as girls.

Range of possible policies suggested:

The above explanation of the deteriorating status of women in Africa suggests that proposals for measures to better their conditions ought to include policies to restructure the national political economies. New institutions need to be developed to implement new patterns of resource allocation capable of providing increasingly productive employment opportunities for all workers, women as well as men, in every sector.

The confines of this brief chapter permit only a summary outline of the kinds of institutions and strategies which might be formulated to provide increasingly productive employment opportunities for men and women in every sector of an increasingly integrated, balanced and self-reliant African economy. The author has elaborated these ideas elsewhere. 39/

First, as experience throughout Africa proves, the issues involved are not merely technical. Narrow elites grasping state power tend to ally themselves with existing national and international institutions perpetuating externally dependent status quo. The primary requisite for restructuring the local and national political economy is the creation of participatory institutional structures to involve working men and women, together, at all
levels of government.

Second, these new participatory state structures need to be directed to ensuring national -- as opposed to transnational corporate -- control of what Tanzania's President Nyerere has called the 'commanding heights:' basic industries, financial institutions, and export-import and internal wholesale trade. This is essential to ensure that available investable surpluses and foreign exchange earnings are used to implement self-reliant development policies to meet the needs of the majority of the men and women and their families throughout the nation.

Third, a long-term industrial strategy needs to be formulated to ensure that over, say, a 20-year period, the new industries built introduce appropriate kinds of technologies to facilitate the spread of increasingly productive employment opportunities for both women and men in agriculture, manufacturing industries, transport and construction. These will not all necessarily be 'small.' Export processing industries will probably need to be relatively capital-intensive to ensure that nationally processed mineral and agricultural exports can compete effectively on the world market. Only then will they earn the foreign exchange necessary to finance critical machinery and equipment to spread productive employment opportunities into other sectors. Pole of growth industries, those large enough to stimulate the spread of chains of industrial and agricultural growth throughout entire regions, will probably need to be fairly large-scale. A predominant feature of the 20 year strategy, however, must be the formulation and implementation of specific plans to ensure that such large, relative capital-intensive industries are linked to and, in fact, do stimulate construction of essential smaller-scale projects to expand productive employment opportunities for men and women into other sectors of the economy: plants to produce construction materials using local labor and raw materials; small-scale food processing plants to preserve foodstuffs, both expanding local markets and ending the import of processed foods; production of simple, durable, low-cost clothing. Government planners and university and technical institute personnel need to develop participatory research programs to involve working women and men in considering available local techniques and appropriate new technologies for these kinds of projects.

Fourth, planned long-term financial policies need to ensure that the increasing domestically-produced surpluses are re-invested to ensure fulfillment of the long-term
industrial strategy. An incomes policy is important to ensure (1) that credit, taxes, profits and farm incomes are designed to provide adequate incentives to women and men in accord with the work they perform; (2) the gradual expansion of social services -- schools, preventive medicine, low cost housing, etc. -- for all families on the basis of need; and (3) investment of all funds, over and above these planned expenditures, in essential new projects to further expand productive employment opportunities and produce more goods and services to raise national living standards. Implementation of financial policies to attain these goals require critical, participatory evaluation of existing financial institutions -- banks, insurance schemes, and government monetary and taxation programs -- to ensure they plan an appropriate role.

Fifth, working women, as well as men, need to be involved in formulation of a parallel long-term 'person-power' plan, reflecting careful analysis of the kinds of new skills workers will need to implement the industrial strategy; and the ways existing or new educational institutions need to be shaped to enable women, as well as men, to acquire these skills. Education, itself, is a scarce resource in third world nations. It must be planned to enable growing numbers of women and men to manage the increasingly complex technologies introduced into industry and agriculture over the next 20 years and beyond. Attention will need to be directed to avoiding the creation of hierarchical, authoritarian work structures and elitist 'experts' -- men or women -- who may manipulate new technologies and institutions to their own advantage.

Special attention will need to be directed to helping men, as well as women, understand the need to change working rules and institutions to ensure that women are involved at every level in the new political-economic institutions created, and are trained to participate in the new opportunities opened up by the long-term transformation process. This requires explicit explanation of the impoverization, not only of women, but also their families, when new technologies, introduced in the context of inherited institutional structures intertwined with age-old socialization patterns, relegate women and their work to an inferior status.

The leaders of the liberation movements that freed the former Portuguese colonies, Mozambique, Angola and Guinea-Bissau through more than a decade of guerrilla struggle, have re-iterated this point. In Guinea-Bissau, for example, the guerilla forces recognized the vital role
of women as the main producers of rice, the national staple food. Without rice, the guerrilla armies could never have mounted the national struggle which ultimately enabled them to declare self-government a year before the fall of the Portuguese dictatorship in Portugal, itself. To ensure the women's support, the leadership convinced the guerrilla forces that at least two out of five committee members governing villages in the liberated areas should be women. Over the years, as this rule was enforced, despite the prevalence of strong Muslim traditions in some areas, the peasantry came to understand the value of including women in critical decision-making posts. It would, of course, be over-optimistic to expect centuries of socialization to disappear completely in the span of a few short years. Nevertheless, as a result of this policy, which was essential to win victory against the Portuguese, women gained a new place in the still predominantly peasant society of Guinea-Bissau. They play leading roles, not only on the village level, but also in regional and national decision-making bodies.

When the author interviewed the head of the Guinea-Bissau Woman's Commission, significantly, she is also head of the national Veterans' Commission — about factors which should be considered in the possible construction of a necessarily capital-intensive bauxite-alumina project, her first recommendation was that special provisions be made to ensure that women cadres be trained and given the opportunity to participate at all levels in operating and managing it. She pointed out that experiencing the liberation struggle proved the necessity of continuing concern for the integration of women into all aspects of the national development program. Even despite the revolution, she emphasized past socialization and institutionalized attitudes and practices might still hinder women's full participation unless special attention was directed to overcoming them. At the same time, she underscored the need to ensure that the project itself contributes to restructuring the overall national economy, rather than replicating the enclave type of

* The total capital required to build the project would exceed the total current national income; but, if successfully planned and implemented, the project might, in five to eight years, end the nation's chronic balance of payment deficit, while enabling them to buy the necessary machinery and equipment to hasten the transformation of their bare subsistence living levels to those more in keeping with the potentials of the 21st Century.
development typically built by colonial and even post-colonial governments elsewhere. She fully understood the necessity of long term planning for small scale, more labor intensive projects, built in conjunction with the export-oriented bauxite-alumina project, to spread productive employment opportunities for men and women throughout the national rural economy.

In sum, evidence from the African case tends to support a model exposing the role of technological change in contributing to the deterioration of women's status within the context of what has come to be known as the process of 'development of underdevelopment.' Post-independence government policies, accompanied by only marginal changes in the institutional and resource allocation patterns inherited from the colonial past, foster introduction of enclave-type capital-intensive technologies in agriculture and industry without regard to balanced, integrated national development. They provide few jobs to (primarily male) workers primarily using imported parts and materials to produce sophisticated consumer goods, mainly for a narrow, high income elite. They contribute to the on-going vicious circle of further impoverishment of the majority of women and their families in the context of growing external dependence.

Analysis of the evidence relating to the model suggests the need for further research, especially as to the contradictory impact of stratification on women's status when new technologies are introduced in the context of inherited institutions. The underlying explanation portrayed argues, nevertheless, that, to avoid further deterioration of women's status, new strategies are required to introduce improved technologies within a framework of broader institutional changes restructuring the national political economy to provide increasingly productive employment opportunities for both women and men. Research related to the on-going experiences of recently-liberated Portuguese colonies seeking to implement this type of transformation may be particularly instructive. As the head of the Women's Commission in Guinea-Bissau pointed out, measures to restructure the economy, while necessary, are not sufficient. They need to be accompanied by vigorous educational efforts to overcome inherited socialization patterns and institutionalized practices which traditionally have tended to exclude women from new opportunities created.
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28. In Zambia, the urban population more than doubled from 25 percent of the national population to 40 percent in the decade after independence was attained. (See Central Statistical Office (Lusaka), Monthly Digest of Statistical Population Changes).


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32. For discussion of the advantages to business of this type of approach, see Business International, S.A., Prospects for Business in Developing Africa


37. Studied by author during a week-long seminar on Law and Development with permanent first secretaries of the major ministries in Mauritius.
38. Reported by U. S. Embassy Official to author. 1973


41. For discussion of pole of growth concept, see R. H. Green and A. Seidman in Unity or Poverty? The Economics of PanAfricanism (Harmondsworth: Penguin Books, 1968).

42. The importance of developing participatory research involving women themselves, rather than studies of women as 'targets' was re-iterated at the Wingspread Workshop on Women and Development; see the report of that workshop, Women and Development (Racine, Wisconsin: Johnson Foundation, 1976).

43. The prevalence of hierarchical, authoritarian workplace structures was underscored as a problem in the United States at the conference held by the Harvard Graduate School of Education and Change Magazine on Work and Education, April 26-7, 1979.

44. J. Van Allen, "Revolutionary Strategies for Change in Africa," paper presented to Wellesley Conference on Women and Development, op. cit.

45. During a two week mission to Guinea-Bissau to participate in an evaluation of the possibilities and problems of constructing a bauxite-alumina project in August, 1978.