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Project-Affected Communities/Landowners and the Distribution of Benefits in Shale Gas Development: United States' Regime to the Rescue?*

By

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Abstract

The problems of increasing energy demand and energy security portends that shale gas development will take place in developing countries where communities and landowners are most likely to be impacted. The paper seeks to examine the extent to which the U.S.A. regime on benefit-distribution to project-affected communities and landowners can influence law and policy-making for other shale gas resource-rich regions mostly in developing countries in dealing with community/landowner expectations. The paper shows that agreement-making between communities/landowners is the likely mechanism that can shape benefit-distribution legal frameworks in shale gas resource-rich developing countries. The paper argues that while it is unrealistic to expect other shale gas rich developing countries to make provision for private ownership of minerals as in the U.S.A, shale gas-rich developing countries can legalise benefit-distribution to communities and landowners learning from the U.S.A. experience. However, agreement-making should be supported with non-legal tools such as capacity building that focuses on negotiation skills, proper representation, transparency, accountability, and revenue management.

Key Words: Shale Gas, Project-Affected Communities, Landowners, United States, Benefit-Distribution

1. Introduction

The emergence of shale gas as an unconventional resource has been described as a revolution and game-changer[1] with commercial development currently going on in the United States of America (U.S.A) that has an evolving legal and policy framework for shale gas development. Analysts predict that the country might soon become a net exporter of gas in the years ahead.[2] The shale gas situation in U.S.A is, however, different from other countries in Asia, Europe, and Africa where there are estimated shale gas deposits. The supply chain value in these countries does not match the U.S.A to achieve the rate of production being experienced in the U.S.A especially by small and medium sized companies. This does not mean that there will be no shale gas production in Asia, Europe and Africa because of mainly problems of energy security as energy needs will more than double today's energy demand. The world's population is approaching 9 billion. In 2050, the number of vehicles is estimated to increase

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[1] Telford, J., "US Shale Gas is a Potential Game Changer for America's Economy", *Moore Stephens*, 28 November, 2012, available at: http://www.msfs.co.uk/news/US-Shale-Gas-is-a-potential-game-changer-for-America%E2%80%99s-economy/View.aspx (last accessed 23 December, 2012)

[2] *Ibid.*

to 2 billion and population in developing countries moves from poor to middle class[3] with the effect that demand for energy increases, so that it might not be too long that its development might start taking place in Africa and other shale gas resource-rich countries. Shale gas production may perhaps hold a lot of promises for African countries like Algeria, Libya and South Africa (S.A). It may not be surprising to hear in the near future that Nigeria becomes rich in shale gas too. It is already proven that Nigeria is rich in natural gas.[4] Thus perhaps Nigeria may in future join the shale gas resource-rich regions.

Interestingly, local communities (project-affected communities) in shale gas resource-rich regions are most likely to be affected by its development environmentally, economically and socially. In extreme cases, project-affected communities have resorted to violence in seeking to resist the proposed energy project even where the government has granted the prospective shale gas companies or contractors the legal permits and licenses to operate. In mild cases, project-affected communities have merely protested and used other civil means to stop the proposed energy project until their demands are met by governments and/or companies. The implications of these activities by project-affected communities in trying to make companies obtain their 'social licence' to operate is to cause delays, increase or create excessive operational cost, and even damage the reputation of the companies.

The paper seeks to examine the extent to which the USA's regime on benefit-distribution to project affected communities and landowners can influence law and policy making for other shale gas resource-rich regions mostly in developing countries in dealing with community/landowner expectations in relation to deriving some benefits from shale gas development.

The paper is useful and important in helping shale gas resource-rich regions mostly in developing countries with the intention of developing their shale gas, to be able to address the challenges that will be faced by project-affected communities through law and policy. It is believed that this will go a long way in addressing some of the delays, excessive cost and reputational damage caused by protests or resistance by project-affected communities to companies and even governments.

The paper is structured in the following order – section two that follows next briefly discuss shale gas development and some implications of shale gas development particularly as it affects project-affected communities and landowners. This shows importantly the adverse impacts shale gas development has on communities to justify their having a share of the benefits. Section three conceptually discusses community expectations generally in mineral development to highlight the community dimension to resource curse and then examines the U.S.A. regime on community benefit-distribution with the aim of showing agreement-making as a likely mechanism that can shape community benefit-distribution legal frameworks in shale gas resource-rich regions. Section four discusses agreement-making as a benefit-distribution mechanism to highlight the role of law in its origin and growth. Section five concludes by trying to define a path for law and policy making for other shale gas rich developing countries such as South Africa, Algeria, Libya, Argentina, China, and so many in the future.

[3] Shell, Natural Gas: Building a Cleaner Energy Future, July 2012 available at: http://s03.static-shell.com/content/dam/shell-new/local/country/zaf/downloads/pdf/karoobasin/natural-gas.pdf (last accessed 24 February, 2013)

[4] United States Energy Information Administration, "Nigeria", 16 October, 2012 available at: http://www.eia.gov/countries/analysisbriefs/Nigeria/nigeria.pdf (last accessed 30 April, 2013)

The paper will argue that while it is unrealistic to expect other shale gas rich developing countries to make provision for private ownership of minerals as in the U.S.A, shale gas-rich developing countries can legalise benefit-distribution to communities and landowners learning from the U.S.A. experience. Benefit-distribution mechanisms such as agreement-making between companies and communities/landowners from the U.S.A. can inform law-making and policy formulation in other shale gas rich developing countries. However, agreement-making should be supported with non-legal tools such as capacity building that focuses on negotiation skills, proper representation, transparency, accountability, and revenue management.

2. Shale Gas Development: Technology and Benefits

2.1. Technology

Shale gas is described as 'unconventional' because it requires additional procedures in drilling for it. These additional procedures made possible by advances in technology are horizontal drilling, and hydraulic fracturing or fracking.[5] To recover shale gas, the well is drilled vertically with directional drilling equipment followed by multiple horizontal drillings with fracking fluids (water and chemicals) pumped under pressure through perforations.

Gas reservoirs may be either conventional or unconventional with three identified unconventional gas reservoirs – tight gas, coal bed methane, and shale gas.[6] In order to get a shale gas, the well is drilled vertically with directional drilling equipment to a depth of about 5000 and 12,000 ft (from 1524 to 3657.6 m)[7] and encased with concrete to avoid seepage. Then multiple horizontal drilling continues to extend the well some thousands of feet (approximately 600 m).[8] Hydraulic fracturing fluids (water and chemicals) are then 'pumped under pressure through the perforations until fractures are enlarged with propping agents such as sand pumped into the fractures to keep fractures from closing as the pumping pressure is released. The fracturing fluids are then returned back to the surface. If the hydraulic fracturing is successful, natural gas then flows from rock. Thus hydraulic fracturing has been defined as 'process by which oil and gas operators can increase recovery of resources from otherwise unproductive, tight hydrocarbon bearing formations'.[9] With conventional drilling multiple well pads are thus created while a single well pad in unconventional drilling thus making this environmentally friendly in this sense. Diagram 1 below shows a traditional well as against unconventional one.

Every shale gas formation is different with its own geological characteristics and as such the challenges and opportunities faced in each of these shale basins are different.[10] Shale gas has been identified to exist in almost every continent of the world but it is only in the U.S.A that shale gas development has commercially started.

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[5] Douglasa, C.C., et al, "Intelligent Fracture Creation for Shale Gas Development, *Procedia Computer Science* Vol. 4, 2011, pp.1745–1750

[6] Sakmar, S.L., "The Global Shale Gas Initiative: Will the United States be the Role Model for the Development of Shale Gas around the World?" *Houston Journal of International Law*, Vol. 33, No.2, 2011 pp.369 – 417 at pp.375-376

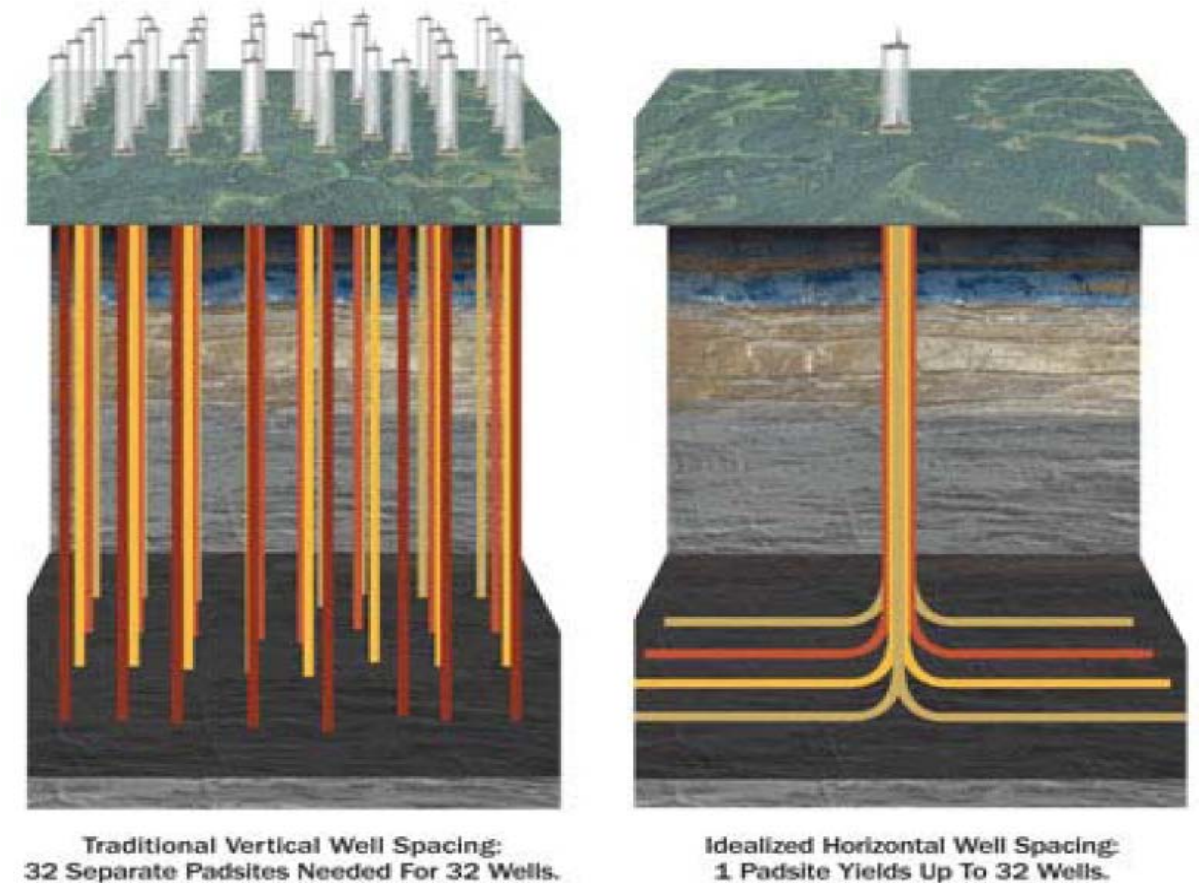
[7] Vaughan, A.D., Pursell, D., "Frac Attack: Risks, Hype, and Financial Reality of Hydraulic Fracturing in the Shale Plays", Reservoir Research Partners and Tudor Pickering Holt and Co, Houston, 2010 available at: http://tudor.na.bdvision.ipreo.com/NSightWeb_v2.00/Downloads/Files/11930.pdf (last accessed 24 February, 2013)

[8] *Ibid.*

[9] Gradijan, F., "State Regulations, Litigation, and Hydraulic Fracturing", *Environmental & Energy Law & Policy Journal*, Vol.7, No.1, 2012, pp.47-85 at p.48

[10] Sakmar, S.L., *Supra* note 6 at p.382

Diagram 1: Traditional Wells vs. Unconventional Well

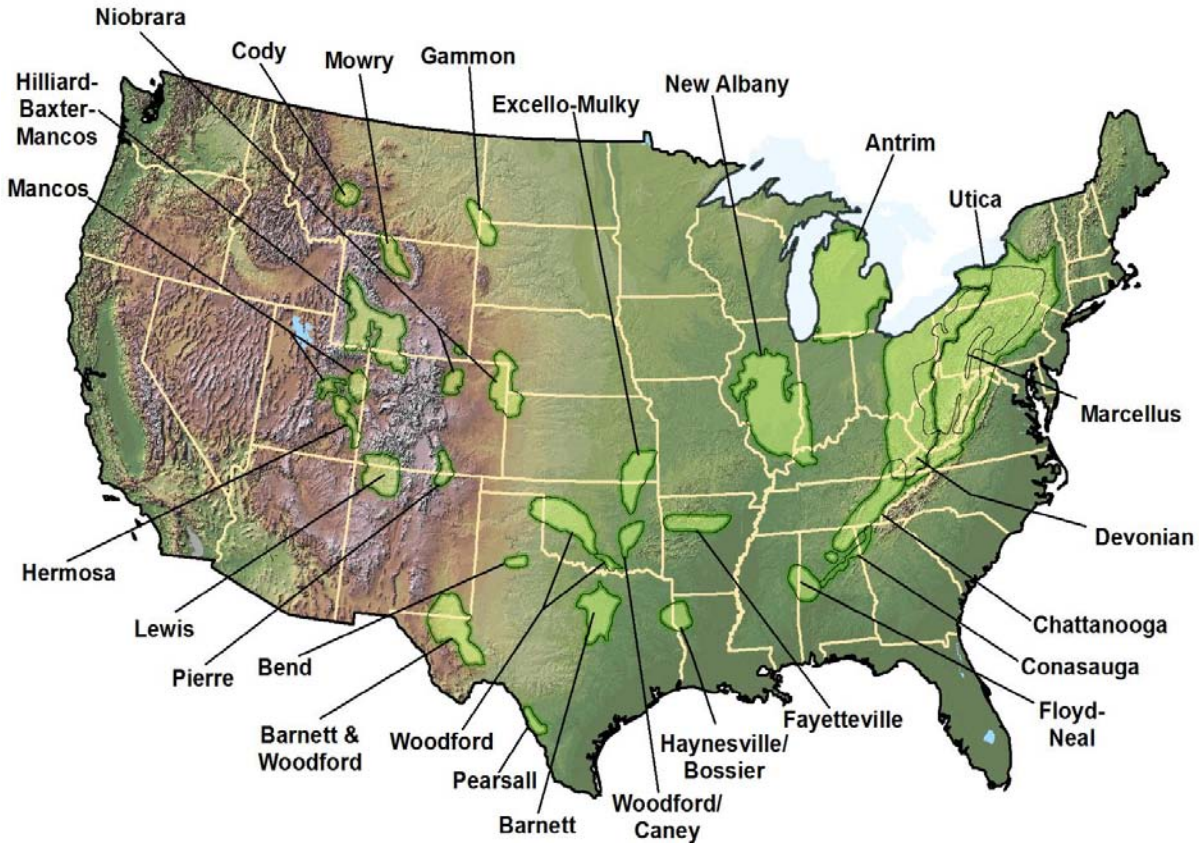


Source: Chesapeake Energy, 2012[11]

The lower forty-eight states in the U.S.A have shale gas with the shale basins identified as the Barnett Shale, Marcellus Shale, Haynesville/Bossier Shale, Antrim Shale, the Fayetteville Shale, New Albany Shale, and Woodford Shale.[12] The diagram below shows the spread of these basins in the U.S.A.

[11] Tiemann, M., et al., "Marcellus Shale Gas: Development Potential and Water Management Issues and Laws", Congressional Research Service (CRS) Report, January 27, 2012, p.10 originally from Chesapeake Energy, "Drilling and Production", 2012 available at http://www.askchesapeake.com/Eagle-Ford-Shale/Drilling-and-Production/Pages/information.aspx (last accessed 14 December, 2012)
[12] *Ibid.*

Diagram 2: United States Shale Basins



Source: Department of Energy, 2009.[13]

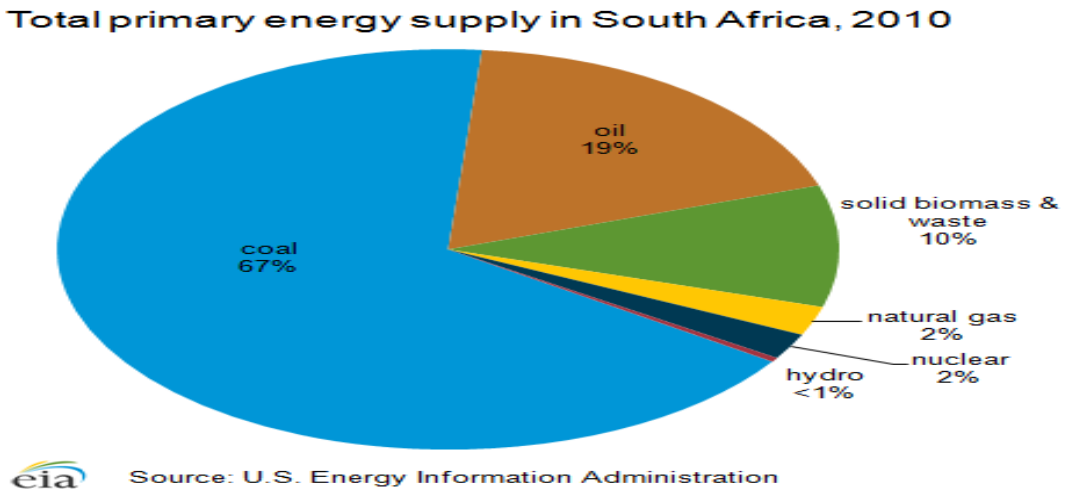
2.2. Benefits of Shale Gas Development

2.2.1. Positive Benefits

Natural gas emits fewer Greenhouse Gases (GHG) compared to coal. For instance, South Africa that is rich in shale gas in the Karoo Basin derives about 70 per cent of power generation from coal as at 2010 earning the country the tag of highest carbon emitter in Africa and the 12th largest in the world.[14] Shale gas development may help S.A. achieve less GHG emissions. The chart below (Diagram 3) shows the country's 2010 energy supply with coal leading by 67 per cent. However, shale gas cannot ultimately deal with the problem of climate change.[15] Horizontal drilling also poses less threat in terms of noise pollution and surface disturbance because of the nature of the drills that requires just one vertical surface drill.

[13] Department of Energy, "Modern Shale Gas Development In The United States: A Primer", April 2009, p.ES-2
[14] United States Energy Information Administration, "South Africa: Overview", 17 January, 2013, available at: http://www.eia.gov/countries/analysisbriefs/South_africa/south_africa.pdf (last accessed 28 February, 2013)
[15] Wangn, J., et al., "Reducing the greenhouse gas footprint of shale gas", *Energy Policy*, Vol. 39, 2011, pp. 8196–8199

Diagram 3: Total Primary Energy Supply in South Africa, 2010



Source: U.S.A. Energy, Information Administration, January 2013.[16]

In terms of energy security and geopolitics, the U.S.A becoming a net exporter of gas may alter the balance of power between Europe and Russia as the former's reliance on the latter's gas may reduce. It will also reduce U.S.A imports of gas and oil from its net exporters such as Qatar and Saudi Arabia. For South Africa, it might help improve electricity supply and perhaps reduce its importation of gas from Mozambique.

The U.S.A. and even S.A. stand to benefit economically from shale gas development. In the U.S.A, the contribution to gross domestic product (GDP) in 2012 is estimated at almost $238 billion while the taxes to federal, state and local governments was over $63 billion.[17] It is estimated that employment in oil and gas extraction increased by 28,000 between 2007 and 2011 with the employment growth occurring in states with shale gas reserves.[18] For South Africa, recent studies by Econometrix show that shale gas development in the country can generate between 300,000 and 700,000 full time jobs plus other economic benefits such as between 3.3% and 9.6% GDP if between 20 and 50 TCF of shale gas is discovered[19] as shown in the table below (diagram 4).

Another forecast by the late Tony Twine of Econometrix in January 2012 'predicts maximum direct and indirect employment of 350,000 to 850,000 people while contributing $250m to $625m to the broader economy'.[20]

[16] US EIA, *Supra* note 14
[17] IHS, "America's New Energy Future: The Unconventional Oil and Gas Revolution and the US Economy", Volume 1: National Economic Contributions, An IHS Report, October 2012
[18] IHS, "America's New Energy Future: The Unconventional Oil and Gas Revolution and the US Economy, Volume 2: State Economic Contributions, An IHS Report, December 2012
[19] Shell, "Supporting Communities", July 2012, available at: http://s01.static-shell.com/content/dam/shell-new/local/country/zaf/downloads/pdf/karoobasin/supporting-communities.pdf (last accessed 24 February, 2013)
[20] Shale gas: Fracking for Africa, Africa in Fact – The Journal of Good Governance in Africa, Issue 4, September 2012, pp.12 -

Diagram 4: Potential Economic Benefits of Shale Gas in South Africa

	20 tcf	50 tcf
Potential Life of Resource	25	25
Potential Annual Economic Impact (ZAR bn)	ZAR 80bn	ZAR 200bn
Potential Contribution to GDP (%)	3.3%	9.6%
Potential Contribution to GDP (ZAR bn)	ZAR 35bn	ZAR 90bn
Potential Permanent Employment	300,000	700,000

Source: Shell, 2012[21]

2.2.2. Negative Benefits

The negative implications of shale gas development revolve around the possible environmental and health impacts that its development can have in relation to fracking especially when it is not properly done. It also relates to water management issues as per the volume of water required and wastewater treatment and disposal.[22] Fracking raises a lot of environmental concerns of which some are uncertain as evidence is still emerging and studies on-going. It is said that fracking can cause groundwater contamination especially where there are faulty well constructions due to some of the hazardous substances or proppants (propping agents) added to the water for fracking. It can also cause air pollution as drilling can emit organic compounds; methane leakages that can contribute to climate change; and pose some seismic (earthquake) risks.[23]

The U.S.A. Environmental Protection Agency is carrying out a report on the effects of fracturing on water and the environment with its final reports to be released in 2014[24] and with the current uncertainty surrounding fracking impacts, two divergent views have emerged – one insisting more or less on a moratorium by stating that operators should apply the precautionary and do no harm approach until all potential dangers of fracking are known, and the other school of thought arguing that new forms of regulation under hydrocarbon laws can tackle the potential dangers posed by fracking.[25]

These are some of the adverse effects that local communities can suffer from shale gas development. Other adverse impacts that local communities suffer due to shale gas extraction

[21] Shell, *Supra* note 19

[22] Greenstone, M., et al, "Energy Policy Opportunities and Continuing Challenges in the Presence of Increased Supplies of Natural Gas and Petroleum", The Hamilton Project, Framing Memo I, Brookings, June 2012

[23] *Ibid.*

[24] Environmental Protection Agency, "Hydraulic Fracturing Research Study", June 2010, available at: http://www.epa.gov/safewater/uic/pdfs/hfresearchstudyfs.pdf (last accessed 10 December, 2012)

[25] Roberson, T.W., "Environmental Concerns of Hydraulically Fracturing a Natural Gas Well", *Utah Environmental Law Review*, Vol. 32, No. 1, 2012, pp.67 – 136; Gradijan, F., *Supra* note 9 at pp.83-85

include land use changes 'as workers clear the area and prepare a well pad, set up the drilling rig, drill, frack, install operational equipment and prepare the well for production'.[26] There are other adverse impacts such as influx of people to the local community causing congestion to social amenities and other services. This can in most instances result in the high cost of living expenses and even the rise in social vices and criminal activities such as stealing, prostitution, murder, and so on. These negative effects of shale gas development forms the basis for the discussion on community expectations in shale gas development especially as it relates to benefit-distribution to project-affected communities.

3. Communities' Expectations in Shale Gas Development

Communities are increasingly becoming aware of the damage that shale gas development will do their livelihood. It is understood that communities bear the brunt of shale gas development through some externalities as part of their contribution to mineral development. The negative economic, environmental and social adverse consequences of shale gas development on communities further impoverish them. The resource curse at the national level becomes reflected at the community level as communities hardly derive benefits from the extractive activity. Thus communities apart from suffering these negative environmental, economic, social, and cultural impacts of shale gas development, hardly partake in the distribution of the benefits. There are numerous case studies of communities that resource development could not continue because government and companies could not meet the expectations of communities and landowners. Governments continue to collect revenues from resource development in the form of taxes and royalties from companies while communities and landowners usually get very little or nothing in return in most resource-rich developing countries. There is either a non-existent or weak/unenforced benefit-distribution frameworks for communities and landowners in many resource-rich developing countries even when communities increasingly make demands. Community expectations thus revolve around increasing communities' voice in managing resources, and providing communities with benefits that can make communities feel comfortable, and with the capacity to contribute to sustainable development.

This paper is more concerned with benefits to communities and landowners and it is within this context that the paper now turns to the U.S.A. regime to explore how it has designed its regimes to allow communities and landowners share from mineral wealth. The aim is to draw lessons for other shale gas rich-developing countries to assist in benefit-distribution law-making and policy formulation.

3.1. United States Regime

3.1.1. Ownership

There are about four different mineral title regimes in the US with that of federal and individual state government's title to onshore and offshore minerals earlier noted.[27] The other forms of mineral rights title that are of interest to this essay are those of individual landowners, and various mixtures of rights embracing native title, ancient rights.

There is no special national legal and policy framework for benefit-sharing to local communities or landowners in the U.S.A. as individual states in the U.S.A try to regulate

[26] Williams, S., "Discovering Shale Gas: An Investor Guide to Hydraulic Fracturing", IRRC Institute, New York, February, 2012, p.17 available at: http://www.irrcinstitute.org/pdf/IRRC_An-Investor-Guide-to-Hydraulic-Fracturing.pdf (last accessed 12 January, 2013)

[27] Bunter, M.A.G., Modern Practice in Petroleum Licensing (Conwy: B & R Co., 2002) p.281

royalty payment to individual landowners while the situation of American Indians and Alaskan Natives (AIAN) is somewhat complex as will be shown later. Thus this essay will look at the practice of benefit sharing to communities and landowners including to AIAN from states practice that is also informed by case laws.

3.1.2. Benefits

3.1.2.1. Individual Landowners

Ownership of mineral rights means that the individual landowner has the legal right to explore, extract, and sell any mineral that rests beneath the land. However, there can be situations where the surface estate owner does not own the rights to the mineral beneath their land in which case there is a severance of mineral rights and surface rights (Split Estate Ownership).

Individual landowners enter into agreements with companies with the financial and technical know-how that grants companies the permission to explore, exploit, and sell found minerals. In signing the 'Lease Agreement' (LA) the landowner is entitled to two forms of payments (compensation) – the first a one-off signing 'Bonus' paid on a per acre basis ranging between $200-$500 per acre. The second is the royalty usually put at 12.5 – 18% depending on the value of extraction expectations. Pennsylvania's Guaranteed Minimum Royalty Act (GMRA) 1979 puts it at a *minimum* royalty of 12.5%[28] and this has generated a lot of litigations. The U.S.A. Supreme Court has held in a plethora of cases that although the GMRA does not define royalty or the method of calculation, the Act "should be read to permit the calculation of royalties at the wellhead, as provided by the net-back method used in the LA.[29]

With respect to some legal perspectives on LA, the following needs to be mentioned. A brief delay in payment of royalties cannot give rise to breach of the LA.[30] It will appear that a LA with a 'subject to management approval clause' will not be valid unless the approval is first had and obtained.[31] There are implied covenants in a LA such as the implied covenant to drill an initial test well, reasonably develop the lease premises, to market the production, and to reasonably restore the surface of the leased premises after the lease is over.[32]

It is clear that while the issues surrounding the legal validity of a lease will continue to dominate case law, new legal issues will continue to arise.[33] Notwithstanding these developments, it is important that a landowner does not grant pipeline rights of way and storage rights in a LA but enter into separate agreements that seeks additional compensation and clearly defines the terms. Landowners should generally seek to protect their surface estate and it is important that landowners consult legal experts to assist them in negotiating LA with companies.

[28] 58 PA. STAT. ANN. § 33 (West 2010)
[29] Kilmer v. Elexco Land Servs., Inc., 990 A.2d 1147, 1150 (Pa. 2010); Kropa v. Cabot Oil & Gas Corp., 609 F.Supp.2d 372, 379-382 (M.D. Pa. 2009);
[30] Sylvester v. Sw. Energy Prod. Co., 2009 WL 3633835, (M.D. Pa. Nov. 2, 2009).
[31] Hollingsworth v. Range Res. – Appalachia, LLC, 2009 WL 3601586 (M.D. Pa. Oct. 28, 2009)
[32] Bibikos, G.A., and King, J.C., "A Primer on Oil and Gas Law in the Marcellus Shale States", *Texas Journal of Oil, Gas, and Energy Law*, Vol. 4, No.2, 2009, pp.155 - 194
[33] Pifer, R.H., "Drake Meets Marcellus: A Review of Pennsylvania Case Law upon the Sesquicentennial of the United States Oil and Gas Industry", 14 December, 2010 (Draft article to appear in Volume 61 of the Texas Journal of Oil, Gas, and Energy Law)

3.1.2.2. American Indians and Alaskan Natives

American Indians and Alaskan Natives (AIAN) constitute about 2.9 million people with about 954,000 residing on Indian reservations and in Alaskan native villages.[34] The Indians are poor compared to other Americans with a median household income of $35,062 in 2010 compared with $50,046 for the overall U.S.A. population.[35] The U.S.A. federal government is empowered to engage in relations with the Indian tribes through the Department of the Interior's Bureau of Indian Affairs (BIA) and the Bureau of Indian Education (BIE).

Land ownership on Indian reservations is divided into three categories – *fee simple* (privately owned by individuals), *individual trust* (land allotted to tribal members but held in trust by the BIA), and *tribal trust* (land managed by the tribal bureaucracy and held in trust by the BIA).[36] In the case of *US v. Shoshone Tribe*[37] the US Supreme Court held that where lands are reserved for tribes, they retain the beneficial rights to the soil and the mineral interests under the lands.

The Indian Mineral Leasing Act (IMLA) of 1938 ensuring a fair return on tribal minerals created a single set of mineral leasing so that while the Indians can negotiate leases themselves, the approval of the Secretary of the Interior is required. The IMLA does not allow tribes people to unilaterally cancel a lease even for breach of its terms as only the Secretary or the courts can do so. However, there is a fiduciary relationship between the Secretary and tribes in mineral leasing with the effect that the Secretary may only approve lease sales when they are in the interest of the Indians.[38] Non-compliance with the IMPA can invalidate a lease and importantly, tribes need not pay state taxes on royalties. In 2010, out of a total of 62,272 mineral leases administered in the United States, 4,643 mineral leases were on Indian lands with 4,357 constituting producing leases as shown in Diagram 5 below.

The payment of cash to Native Alaskans is a popular discussion on the issue of broad petroleum revenue management. An amendment to the Alaskan constitution saw the birth of the Alaskan Permanent Fund (APF) in 1976 where at least 25% of all oil revenue should be kept in the APF. There are two parts to the Fund but suffice by 1982 it started paying every Alaskan resident (at least one year resident) annual dividends worth $1000 each but this has increased in successive years.[39]

Tribe people with fee simple can enter into lease agreements with companies just like every other American individual landowner.

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[34] Visit www.census.gov/geo/www/maps/aian2010_wall_map/aian_wall_map.html (data contained in map on the link); Government Accountability Office, "Indian Issues: Observations on Some Unique Factors that May Affect Economic Activity on Tribal Lands," GAO-11-543T, 7 April, 2011, p. 1.

[35] Edwards, C., "Indian Lands, Indian Subsidies and the Bureau of Indian Affairs", CATO Institute, February 2012, available at: http://www.downsizinggovernment.org/interior/indian-lands-indian-subsidies (last accessed 13 January, 2013)

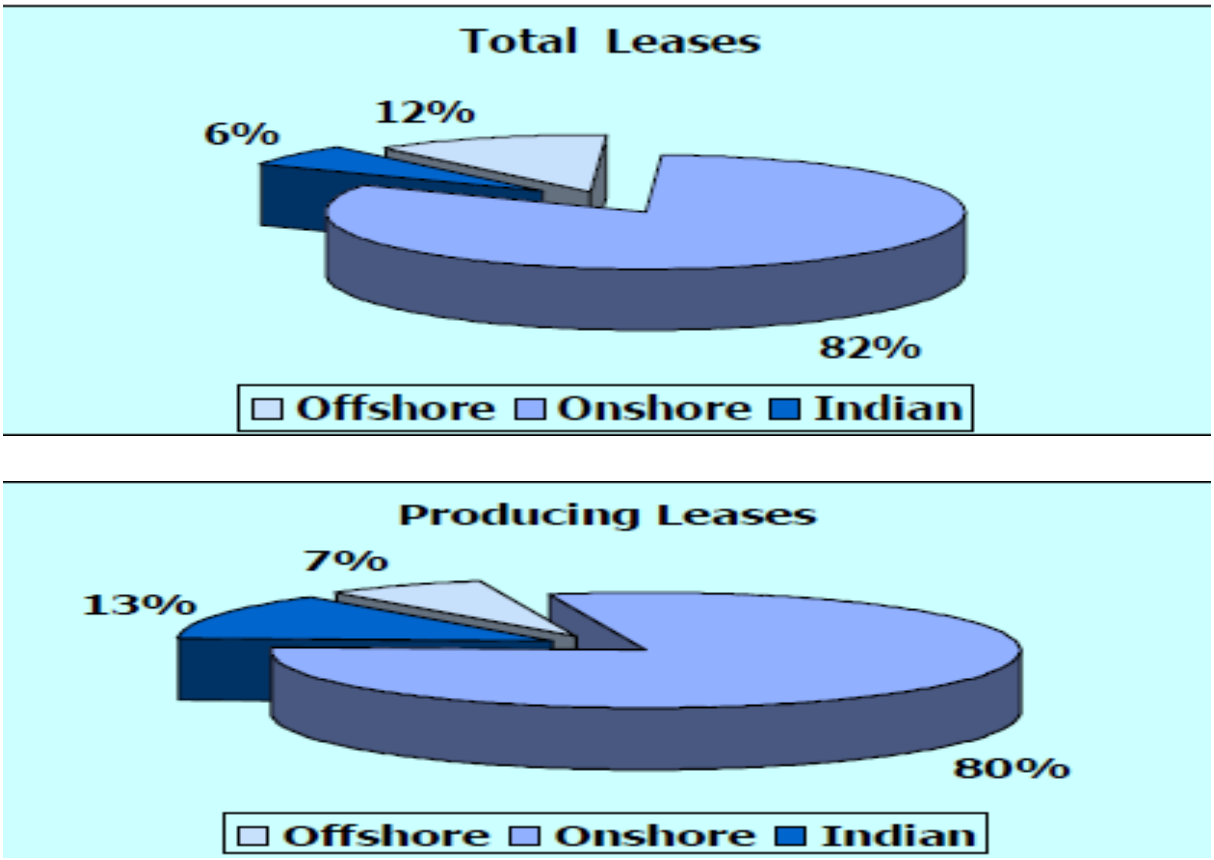
[36] *Ibid.*

[37] 304 U.S.A. 111 (1938)

[38] 537 U.S.A. 488 (2003)

[39] Hartzok, A., "Citizen Dividends and Oil Resource Rents - A Focus on Alaska, Norway and Nigeria", paper presented at the U.S.A. Basic Income Guarantee Network (USBIG) track of the Eastern Economic Association 30th Annual Conference held February 20-22, 2004 in Washington, DC

Diagram 5: Mineral Leases in United States, 2010



Source: Maltlock, J.M., and Tschudy, D.G., 2011[40]

4. Agreement-Making in Benefit-Distribution

Impact and Benefits Agreements (IBAs) as a name appears to have originated in Canada as agreements entered into between indigenous peoples and extractive companies for the socio-economic development of these indigenous communities. However, the practice of agreement-making between companies and local communities for the development of local communities may have originated from the United States where it is termed 'Good Neighbour Agreements' but practically having the same result in substance.[41] Other nomenclatures for IBAs include Community Development Agreements (CDAs), Participation Agreements (PAs), etc. It is agreed that agreement-making in natural resource development can bring about the positive social and economic transformation of indigenous peoples and by extension local communities and landowners.[42] Although originally developed for engaging indigenous peoples, there is no reason why this practice cannot be used with local communities and landowners that may not qualify as indigenous peoples.

[40] Maltlock, J.M., and Tschudy, D.G., 2011 Rocky Mountain Mineral Law Foundation 2011 Federal Oil and Gas Leasing Short Course, 17 October, 2011
[41] Acutt, N.J., "Perspectives on Corporate Responsibility: The South African Experience with Voluntary Initiatives", *CSERGE Working Paper ECM 03-05*, Centre for Social and Economic Research on the Global Environment, University of East Anglia, p.13
[42] Godden, L., et.al. "Accommodating Interests in Resource Extraction: Indigenous Peoples, Local Communities and the Role of Law in Economic and Social Sustainability", Vol. 26 Journal of Energy and Natural Resources Law, 2008, p.28

Janeth Warden-Fernandez has long advocated that the signing of comprehensive agreements between governments, IOCs and indigenous peoples is the best strategy to resolving conflicts that may arise during natural resource development.[43] However, while it is desirable for a government to be a party to an IBA, it is not always the case. Such agreements should cover issues relating to employment, environmental protection, land use, local business development, infrastructural development, etc. It is emphasised that such an arrangement would not only bring about peaceful resource extraction but also help boost the Host Government's image internationally because it reflects a balance among the interests of the three key stakeholders.[44]

However, it should be noted that different IBAs may hold different potentials depending on some external factors such as the power imbalance between or among the parties.[45] Thus, it is argued that negotiations should be based on mutual respect, compromises, authentic goodwill, and be fair or equitable.[46] Furthermore, such IBAs should have provisions for capacity and institution building to ensure for continuity after end of production or mine closure because agreement-making is likely to improve community capacity to execute policies capable of bringing about community development.[47]

There is a growing body of literature that documents the trend in IBAs or CDAs particularly in Canada and Australia in meeting the demands and needs of indigenous communities and local people in natural resource development.[48] It is, however, important to emphasise that these trends in Canada and Australia have been largely influenced by the legal and jurisprudential developments in those countries. In Australia for instance, the Mabo[49] decision had recognised the land and water rights at common law of Australian aboriginals by reversing the *terra nullius* concept. This decision influenced the outcome of the Native Title Act 1993 with an amendment in 1998 that elevated aboriginal status and introduced agreement-making among developers, the government and aboriginals. Similarly, there are some legal bases for IBAs in Canada[50] with the rights of indigenous peoples recognised under section 35(1) of the 1982 Constitution Act.[51] Examples of agreements between companies and communities abound in Canada and Australia such as the BHP Area C Agreement, and the Diavik Diamond Mine Socio-Economic Monitoring Agreement and Aboriginal Participation Agreement respectively. In the case of the former, the company initiated the agreement-making process and also funded the negotiations for the indigenous peoples.[52] In the latter agreement, it was negotiated before any construction began

[43] Warden-Fernandez, J., Indigenous Rights Versus Development of Natural Resources: Which will be the Best Solution to Resolve Conflict? CEPMLP Paper CP 5/2000 (Dundee: CEPMLP) 2000, p.22
[44] *Ibid*, p.23
[45] Godden, L., et.al., (*Supra*) note 42 at p.28
[46] Warden-Fernandez, J., (*Supra*) note 42 at p.23
[47] Langton, M., and Mazel, O., Poverty in the Midst of Plenty: Aboriginal People, the "Resource Curse" and Australia's Mining Boom, Vol. 26, *Journal of Energy and Natural Resources Law*, 2008, p.65
[48] *See* for instance, Cameron, P.D and Correa, E., Towards Contractual Management of Public Participation Issues: A Review of Corporate Initiatives, In Zillman, D.N., et al (eds.) Human Rights in Natural Resource Development: Public Participation in the Sustainable Development of Mining and Energy Resources (Oxford: Oxford University Press) 2002, pp. 213 – 230
[49] *Mabo v Queensland* (No 2) (1992) 175 CLR 1
[50] See for instance, section 5(2) of the Canada Oil and Gas Operations Act, R.S.C., 1985, c. O-7 (Last amended on 31 July, 2010) that prohibits the carrying out of any work before the approval of a benefits plan.
[51] See also Delgamuukw v. British Columbia (1997) 3 S.C.R 1010
[52] Indigenous Support Services and ACIL Consulting Pty. Ltd., "Agreements between Mining Companies and Indigenous Communities", Report to the Australian Minerals and Energy Environment Foundation, December 2001, p.32

emphasising the importance of negotiation, and Inuit communities are to benefit from training, employment and business development programmes.[53]

5. Conclusions

The essay sought to explore the extent to which the legal and policy framework in the U.S.A. for community and landowner empowerment in shale gas development can influence law and policy making in other shale gas resource-rich regions in developing countries such as South Africa, Libya, Algeria, Argentina, China, and so on. Benefit-sharing regimes for local communities and landowners in most developing countries are non-existent, unenforced, weak, and unfair to these stakeholders resulting in the latter resisting or opposing energy development projects that causes delays, increased cost and reputational damage.[54]

The paper finds that shale gas development can cause environmental, social, and economic adverse impacts on local communities and landowners. It is shown that there is a legal and policy framework for benefit-sharing to landowners and communities in the U.S.A. While the U.S.A has a combination of both private and State ownership of minerals, most developing countries such as South Africa, Libya, etc. currently have only State ownership of minerals. The benefit-sharing model in the U.S.A is hinged mainly on agreement-making supported by law between landowners/communities with companies that attracts royalty payment. Thus individual landowners and communities with title to minerals in the U.S.A can negotiate a lease agreement with companies for royalty payment. While it is unrealistic to expect other shale gas rich developing countries to make provision for private ownership of minerals as in the U.S.A, law and policy-making on benefit-sharing with local communities and landowners for shale gas development in other shale gas rich developing countries could experiment with agreement-making.

As shown in the Canadian and Australian discussions, agreement-making is not restricted to royalty payment but allows communities and landowners to negotiate favourable terms that allow for community development especially in the areas of employment, local procurement, equity participation, infrastructures such as roads, hospitals, schools, and so on. Thus it is argued that law and policy-making that supports agreement-making in these countries such as Community Development Agreements, Participation Agreements or Green Neighbour Agreements as they are called can be used to meet community and landowner expectations. In other words, agreement-making between shale gas companies and communities and landowners is a powerful tool that is capable of granting companies the 'social licence' to operate to avoid project delays and excessive cost, and at the same time ensuring community development. However, to be effective in its implementation, agreement-making in law and policy-making needs to be supported with non-legal tools such as capacity building for communities and landowners to be able to understand the dynamics and supply chain for shale gas development so as to better negotiate. Capacity building by civil society organisations can focus on proper representation, transparency, accountability, negotiation skills, and revenue management.

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[53] Intergovernmental Working Group on the Mineral Industry Sub-committee on Aboriginal Participation in Mining, Report on Aboriginal Participation in Mining in Canada – Mechanisms for Aboriginal Community Benefits, Thirteenth Annual Report; Indian and Northern Affairs Canada, 2005 p. 38 available at: http://www.ainc-inac.gc.ca/nth/mm/pubs/abo13/abo13-eng.pdf (last accessed 19 July 2011)

[54] Cotula, L., "Legal Empowerment for Local Resource Control: Securing Local Resource Rights within Foreign Investment Projects in Africa", Hertfordshire: UK, International Institute for Environment and Development, 2007

Thus, it is argued that although lack of infrastructure, scarce water, and environmental concerns are challenges to shale gas development, energy security needs will prevail so that shale gas development appears imminent and community/landowner benefit-sharing lessons learned from the U.S.A can inform law and policy-making in other shale gas rich developing countries.